This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

SAP 24.2 (84)

Harvard College Library

FROM

Bureau of the American Republics

Econ 6212.3

BUREAU OF THE AMERICAN REPUBLICS,
WASHINGTON, U. S. A.
JOSEPH P. SMITH, Director.

ALASKA.

HANDBOOK No. 84. AUGUST, 1897.

BUREAU OF THE AMERICAN REPUBLICS,
WASHINGTON, U. S. A.
JOSEPH P. SMITH, Director.

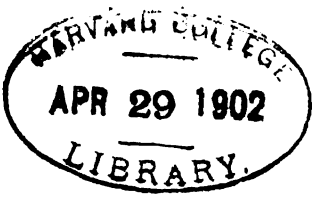
ALASKA.

HANDBOOK No. 84. AUGUST, 1897

Ecan5830.1.46

Econ 6212.3

SAP 24.2(84)



Bureau of the American Republics

NOTE.

The following compilation was prepared as part of the chapter on the United States for the Commercial Directory of the American Republics to be issued by the Bureau of the American Republics during the current year. It is printed separately in this form in response to the quickened interest in Alaska resulting from the recent discoveries of gold in the Klondike region and the great demand for fresh and reliable information concerning that Territory.

Joseph P. Smith

Director of the Bureau of the American Republics.

WASHINGTON, D. C., *August 10, 1897.*

CONTENTS.

	Page.
I. Location, area, and population	7–11
II. Indian tribes of Alaska	12–14
III. Geography and topography	15–24
IV. Climate	25–29
V. Towns and trading posts	30–34
VI. Forests of Alaska—Varieties of timber	35–37
VII. Agricultural resources	38–42
VIII. The fur-seal and other fisheries	43–74
IX. Mineral resources—The Klondike gold region	75–124
X. Commerce—Transportation facilities—Proposed railroad	125–128
XI. Territorial government	129–130
Index	131–133
Map of Alaska	Frontispiece

ALASKA.

I.

Location, Area, and Population.

The Territory of Alaska, lying in the extreme northwestern corner of the North American Continent, on the Bering Sea and North Pacific, comprises an area of about 577,390 statute square miles, with a seacoast of 26,000 miles, or nearly two and one-half times the seacoast of the balance of the United States. The Territory was acquired by purchase by the United States from Russia, and the boundaries, as laid down in the treaty of cession of March 30, 1867, are: Commencing from the southernmost point of the island called Prince of Wales Island, which point lies in the parallel of 54 degrees 40 minutes north latitude, and between the 131st and the 133d degree of west longitude (meridian of Greenwich), the said line shall ascend to the north along the channel called Portland Channel as far as the point of the continent where it strikes the 56th degree of north latitude; from this last-mentioned point, the line of demarcation shall follow the summit of the mountains situated parallel to the coast as far as the point of intersection of the 141st degree of west longitude (of the same meridian); and finally, from the said point of intersection, the said meridian line of the 141st degree, in its prolongation as far as the Frozen Ocean.

IV. With reference to the line of demarcation laid down in the preceding article, it is understood—

1st. That the island called Prince of Wales Island shall belong wholly to Russia (now, by this cession, to the United States).

2d. That whenever the summit of the mountains which extend in a direction parallel to the coast from the 56th degree of north latitude to the point of intersection of the 141st degree of west longitude shall prove to be at the distance of more than ten marine leagues from the ocean, the limit between the British possessions and the line of coast which is to belong to Russia as above mentioned (that is to say, the limit to the possessions ceded by this convention) shall be formed by a line parallel to the winding of the coast, and which shall never exceed the distance of ten marine leagues therefrom.

The western limits, within which the territories and dominion conveyed are contained, passes through a point in Bering Straits on the parallel of 65 degrees 30 minutes north latitude, at its intersection by the meridian which passes midway between the islands of Krusenstern, or Ignalook, and the island of Ratmanoff, or Noonarbook, and proceeds due north, without limitation, into the same Frozen Ocean. The same western limit, beginning at the same initial point, proceeds thence in a course nearly southwest through Bering's Straits and Bering's Sea, so as to pass midway between the northwest point of the Island of St. Lawrence and the southeast point of Cape Choukotski, to the meridian of 172 west longitude; thence, from the intersection of that meridian, in a southwesterly direction, so as to pass midway between the island of Attou and the Copper Island of the Kormandorski couplet or group in the North Pacific Ocean, to the meridian of 193 degrees west longitude, so as to include in the territory conveyed the whole of the Aleutian islands east of that meridian.

The treaty ceding to the United States the territory of Russian

America, as it was then called, was concluded March 30, 1867. The sum of $7,000,000 was originally agreed upon; but when it was understood that there was a fur company and also an ice company enjoying monopolies under the existing government, it was thought best that these should be extinguished; and the United States added $200,000 to the purchase money, in consideration of which the Russian Government formally declared the cession of the territory to be free of all incumbrances.

Although there is no record of official correspondence on the matter, the eastern boundary line appears to have been the subject of informal consultation between the United States and Great Britain soon after the territory was annexed. In his annual message to Congress, December 2, 1872, President Grant recommended the appointment of a joint commission to determine the line; but no action upon the matter was taken by Congress. On May 17, 1886, President Cleveland transmitted to Congress copies of correspondence on the question between Secretary Bayard and Minister Phelps, and recommended the appropriation of $100,000 for making a preliminary survey of the frontier territory. During the winter of 1887–88, informal conferences were held in Washington between Prof. W. H. Dall, of the United States Geological Survey, and Dr. George M. Dawson, both authorities on the Territory of Alaska, but the conferences led to no result. On August 20, 1895, Lord Gough inquired of Secretary Olney if a joint surveyor could not be appointed to act with Mr. William Ogilvie, who was then about to survey the intersection of the one hundred and forty-first meridian and the Yukon River. The Acting Secretary of State asked if the proposed survey could not be delayed until Congress had had an opportunity to consider the question. This suggestion was transmitted to the Canadian government, which answered that the season was so far advanced that it would not be possible to communicate with Mr. Ogilvie before the next summer, when a considerable portion of

the one hundred and forty-first meridian would already be marked on the ground. An extract from a letter by Secretary Olney, dated March 11, 1896, was as follows:

"So far as the recent and existing surveys on either side have progressed, they exhibit a close coincidence of results. At one point, as I am informed, the difference between Mr. Ogilvie's location and that made by the United States Coast and Geodetic Survey is only about 6 feet 7 inches. In another point the difference is in the neighborhood of 500 or 600 feet, and at other points even closer coincidence than this latter is expected when the comparison of calculations shall have been worked out."

Mr. Olney proposed that the two Governments should agree upon certain points of the one hundred and forty-first meridian at the intersection of the principal streams, locating the same at points midway between the determinations of the Coast and Geodetic Survey and of Mr. Ogilvie, and providing for the junction of the points so located by convenient joint surveys, as occasion should require, until the entire line should be established. This would supply a permanent line which for international purposes would be coincident with the one hundred and forty-fifth meridian, stipulated under existing treaties, and would require no further immediate arrangement than the dispatch of a joint surveying party to set up monuments at the points defined, with perhaps the survey of a traverse line connecting the monuments on the Yukon and Forty Mile Creek, and farther south if necessary.

The Canadian government agreed to this proposition, and the convention is now pending before the Senate of the United States.

POPULATION.

No definite idea of the population was obtained until the census of 1890. In 1868, in a report by Maj. Gen. H. W. Halleck, the number given was 82,400. In the same year Rev. Vincent

Collyer, in his report to the Commissioner of Indian Affairs, added 11,900 Thlinket Indians to the number given by General Halleck, making 94,300, while Ivan Petroff, Special Agent for the Tenth Census (1880), states the population as 33,426. The census of 1890, which is the first detailed statement, fixes the number at 32,052, which is made up of 4,298 white, 23,531 Indians, 2,288 Mongolians, and 1,935 mixed blood.

II.

Indian Tribes of Alaska.

For some years after the cession of Alaska to the United States, there was trouble among the Indian tribes, and a man-of-war was stationed in Sitka Harbor. There has been no recent disturbance. The natives of Alaska, according to Mr. Petroff, are divided into four principal families: The Eskimo or Innuit, the Aleut (Oonagan), the Thlinket, and the Athabaskan (or Tinneh). There are numerous subdivisions. The Eskimos occupy almost the whole coast line of Alaska west of the one hundred and forty-fifth meridian. The Aleuts inhabit parts of Aliaska Peninsula, the Shumagin Islands, and the Aleutian chain. The Athabaskans include a large number of tribes generally classed as "North American Indians," extending from the mouth of the Mackenzie River in the north to the borders of Mexico in the south. The northern tribes extend west nearly to Bering Sea, touching the coast only in the northern part of Cook Inlet. At every other point they are separated from the ocean by a belt of Eskimo. The Thlinket inhabit the coast and islands from the intersection of the one hundred and forty-first meridian to the southern boundary of Alaska. Detailed descriptions of the tribes are given in Petroff's Population, Industries, and Resources of Alaska; by Dall, in "Alaska and its Resources," and by Lieutenant Schwatka (Military Reconnoissance in Alaska).

The report of Governor Knapp for 1892 says: The Athabascans and Eskimos have come less under the influences of contact with white people than the other tribes, and therefore retain more

of their original customs and peculiarities. They occupy the interior and the coast of the Arctic Ocean and Bering Sea. The Eskimos are a comparatively gentle and inoffensive people, living mostly upon fish, walrus, whale, and other game to be found near the shores and in the water, though they also make long excursions into the interior, hunting reindeer, moose, and other large animals. The interior Indians (Athabascans) live mostly by hunting and fishing in the rivers. A few mission stations along the coast and on the Yukon River have had a little influence upon a very small number of the people. The mining camps on the upper Yukon have also come in contact with the natives to some extent in the way of trade, but they have not in any large degree acted as civilizing agencies. It is said the natives of the upper Yukon region have been very little demoralized by the use of intoxicating liquor, perhaps on account of the difficulty of packing it across the divide. Mr. Chapman, of Anvik, writes that "liquor has not troubled the natives speaking the group of dialects found around Anvik; but almost everywhere else in the Yukon country it has made more or less trouble." The dialects referred to arise from the interrelations of Eskimos and Athabascans at the point of contact. The Eskimos and interior Indians find it necessary to exercise the utmost of their energies and of their ingenuity to secure a bare subsistence, and their ideas have not risen much above the level of animal existence. Physically, they are strong and comparatively healthy; mentally, they lack vigor; morally, they substitute expediency for right. They are comparatively honest, because it is the best policy to be so. They see no moral quality in abstaining from the use of intoxicating liquors, tobacco, or other hurtful things, or in restraints in the relations of the sexes.

Except as their ideas are modified by relations and intercourse with white people, they have no religion, unless certain indefinite superstitions having no connection with any idea of a supreme spiritual being can be called religion.

The Aleuts have become thoroughly Russianized. They talk Russian, belong to the Russian Orthodox Church, shade off into Russian blood, features, and complexion, and affect Russian ideas. They are rapidly fading away. Their physical condition is far from being satisfactory, and their moral condition is worse. They are an easy-going, gentle, and kindly disposed people, somewhat lacking in force of character. They secure a comfortable living with their sea-otter hunting and fishing, and have little forethought as to the future.

The Thlingkets, Tsimpseans, and Hydas live in southeastern Alaska and are very similar in character and habits, though their languages are different. Their contact with white people has very much modified them in many respects, and many of them now converse freely in the English language, while a few of them read and write.

III.

Geography and Topography.

Alaska may be conveniently divided, says Special Agent Ivan Petroff, in his report on the Population, Industries, and Resources of Alaska, 1884, into six geographical sections:

1. The southeastern, containing 29,980 square miles, and comprising the coast from Mount St. Elias in the north, to Portland Canal, in latitude 54° 40′ in the south, together with the islands of the Alexander Archipelago between Cross Sound and Cape Fox. This region differs from the bulk of Alaska, resembling British Columbia and the adjoining islands. It is densely wooded and exceedingly mountainous in its formation, the coast is deeply indented with bays and fiords, and for two-thirds of its length is sheltered by the islands of the archipelago. Coal has been discovered on many of the islands and on the mainland, but no practical use has thus far been made of the discoveries. Discoveries of gold-bearing quartz were made on Baranof Island, but the ledges are not worked. Gold was also discovered on the peninsula between Taku and Chilkat inlets and on Douglas Island. The natives are chiefly engaged in the fur trade and fisheries. There are numerous glaciers, and the mountains range from 2,000 feet in height to 18,100 (Mount St. Elias). The chief river is the Stikine (see "River system").

2. The Kadiak division, containing 14,610 square miles, comprises the south coast of the Aliaska Peninsula down to Zakharof Bay, with the adjacent islands, the Kadiak group, Cook Inlet, the Kenai Peninsula, and Prince William Sound. This country is

also very mountainous. Steep ridges and peaks rise to the height of sometimes 12,000 feet, intersected by glaciers. Coal has been found on the peninsula opposite Kadiak Island, and coal and gold on Cook Inlet. The principal rivers are the Shushitna and the Copper.

3. The Aleutian division contains 14,610 square miles, and comprises the western part of the Aliaska Peninsula and the chain of islands from the Shumagin group in the east to Attu in the west, including the Pribilof Islands. The islands appear to be a continuation of the main Alaskan range of mountain groups. There are many volcanic peaks, and slight shocks of earthquake are common. The entire division is treeless, dwarfed specimens of creeping willow being the nearest approach to timber found. Grass grows in abundance.

4. The Kuskokwim division contains 114,975 square miles, and is bounded on the north by the Yukon division and on the east by the mountain range between the Kuskokwim and Tanana rivers. The head waters of this river have not been explored, but the ground on the shores is low and marshy. The interior of Alaska is less elevated, and contains extensive plains. The country is poor in natural products, although salmon abounds in the river.

5. The Yukon division contains 176,715 square miles, and comprises the valley of the Yukon River, as far as it lies within our boundaries, with its tributaries. The division is bounded by the Arctic division on the north, the one hundred and forty-fifth meridian on the east, and Bering Sea on the west. The southern boundary lies along a line indicating the water shed between the Yukon and the Kuskokwim, Sushitna, and Copper rivers. This section, as well as the Kuskokwim division, are more fully described under the heading "River system."

6. The Arctic division covers 125,245 square miles, and comprises that portion of the continent between the one hundred and forty-fifth meridian on the east and Bering Strait on the west, the

Yukon district on the south and the Arctic Ocean on the north. This division, situated almost entirely above the Arctic Circle, is known only from observations made on the seacoast. The vast interior, consisting probably of frozen moors and low ranges of hills, intersected here and there by shallow streams, remains almost entirely unknown. The Meade, Ikpikpung, and Colville rivers empty into the Arctic Ocean, and the Selawik (flowing through Selawik Lake), the Noatak, and the Kowak empty into Kotzebue Sound. The natives report the existence of settlements on all these rivers except the Colville, whose head waters no white man has ever visited. The coast settlements between Cape Prince of Wales and Point Barrow are visited annually by many schooners and ships engaged in whaling, hunting, and trading, and the inhabitants are better accustomed to white men than the natives of any other regions of Alaska. They carry on an extensive traffic with the natives of the Arctic coasts of Alaska and Asia. Kotzebue Sound is by far the best harbor in this section of the Arctic Ocean.

RIVER SYSTEM.

One of the characteristics of Alaska is the network of rivers that covers its surface, and that serves as the most available means of transportation. In the Sitkan district, says Mr. Petroff, land travel is simply impracticable. Nobody goes on a road; savages and whites all travel by water. In the more northern regions "the country, outside of the mountains, is a great expanse of bog, lakes, large and small, with thousands of channels between them." By ascending Lynn Channel, the head waters of the Yukon can be reached by the Chilkoot, the Chilkat, or the White passes; the Copper and Tanana rivers, the Copper and Sushitna, the Tanana and White, the Sushitna and Kuskokwim are connected by trails. There is a trail of 6 miles between branches of the Yukon and Kuskokwim.[1] In the Alaska peninsula, there is a route from Bristol

[1] According to the map in Nansen's "Farthest North."

Bay to Shelikof Strait, via Walker Lake and the Naknek River. Speaking of this region, Mr. Dall (Alaska and its Resources, 1870, p. 273) says: "The country between and at the bases of the high mountains, which form the prolongation of the Alaskan range in the peninsula, is very low and marshy. In many places, large lakes are found, emptying into the sea by rivers on either side, and it is said that in some places a passage can be made in canoes from one shore to the other, hardly lifting the canoe out of water during the journey."

The Yukon can be reached from Norton Sound via the Unalaklik and Autokakat rivers (or via the Kaltag), the usual route of travelers from St. Michaels. The Yukon also connects, via the Koyukuk, with Kotzebue Sound. The statement is made by natives that there are routes of travel between the northern tributaries of the Yukon or the Noatak and the rivers that empty direct into the Arctic Ocean.

Beginning on the south, the Stikine is the first river of large size, although it lies within Alaskan territory, only 30 miles in an air line from its mouth. It empties into Dry Strait, near Wrangell Island. The river has become well known on account of the gold diggings on its banks, all of which are in British territory. It is over 250 miles in length, and is navigable only by boats, except during the spring freshets. The North Fork (about 40 miles long) rises on the east side of the Bald Mountains, near the headwaters of the Yukon. A small stream called the Taku flows into Glacier Arm of St. Stephens Strait. The Chilkat, a much larger river, enters the northern extremity of Lynn Channel. The general direction of this river is from the north. The Indians ascend it against a rapid current in twenty days, when they make a portage by several lakes to the Lewis River, a tributary of the Yukon.

The mouth of the Copper River lies in latitude 60° 17′ and longitude 145° 20′. The delta is 30 miles long by 4 or 5 wide,

and the principal mouth is at the northwest. This river, with its tributary the Chittyna, was explored in 1885 by Lieutenant Allen (Reconnoissance in Alaska, Senate Ex. Doc. 125, Forty-ninth Congress, second session). He followed the Copper River for some 389 miles, and says that it drains, approximately, 25,000 square miles. By way of the Slana River and Lake Suslota, the Tanana, a tributary of the Yukon, can be reached. Lieutenant Allen says (pp. 69–71):

To find two rivers of the magnitude of the Tanana and Copper heading so near each other as almost to have intersecting tributaries, and to be so entirely different in their characteristics, I consider one of the most interesting discoveries of the expedition. . . . The pass over the Alaskan range, Lake Suslota, is probably the best locality that will permit communication between the Yukon Basin and the Copper River country, and would doubtless be used should the minerals of the latter region prove of sufficient importance. The possibility of the ascent of the Copper with provisions can hardly be entertained, unless it be made with sleds during the winter.

The Sushitna River empties into Cook Inlet. This river is said to connect both with the Tanana and the Kuskokwim by trails. West of Augustin Island is a small stream by which, through the mountain gorges, portage is made to Lake Iliamna. This lake, says Mr. Dall, is supposed to be rather shallow, and is known to be over 80 miles long and about 24 broad—fully half as large as Lake Ontario. At Fort Alexandra is the mouth of the Nushagak, said to be 150 miles in length, and to connect by means of lakes and rivers with the Kuskokwim. This is the second largest river in Alaska. In his report on the Territory, Mr. Petroff says:

The length of the main artery of this division is not known, the head waters of the Kuskokwim having thus far been untouched by the explorer or trader. We have the statements of natives to the effect that the upper Kuskokwim River flows sluggishly through a vast plateau or valley, the current acquiring its impetus only a short distance above the village of Napaimute. From this point down to the trading station of Kalmakovsky and to the southern end of the portage route between this river and the Yukon, the banks are high and gravelly

and chains of mountains seem to run parallel with its course on either side. This section of the Kuskokwim Valley is but thinly populated, though apparently the natural advantages are far greater than on the corresponding section of the Yukon. The soil is of better quality and is sufficiently drained to permit of a more luxuriant growth of forest trees, shrubs, and herbs.

Such indications of minerals as have been found here are the most promising of those in any portion of western Alaska, consisting of well-defined veins of cinnabar, antimony, and silver-bearing quartz.

Game and fur-bearing animals do not abound in this section of the river valley, as it is an old hunting ground, and has been drained by constant traffic for more than half a century. The principal business of the traders at Kalmakovsky is derived from the almost unknown head waters of the river, where the beaver, marten, and fox are still plentiful.

The people of the lower Kuskokwim, adds Mr. Petroff, live from the abundant supply of salmon. Over 4,000 people lay in the winter supply for themselves and for their dogs during a few months of summer. The fish is dried in a wasteful manner, and with better methods four times the number could be provided for. This section of the country teems with population. The estuary of the river is capacious, and the tides have a surprising velocity and an enormous rise and fall.

THE YUKON REGION.

The following descriptions are also taken from Mr. Petroff's report:

The people of the United States will not be quick to realize that the volume of water in an Alaskan river is greater than that discharged by the mighty Mississippi; but it is entirely within the bounds of honest statement to say that the Yukon River, the vast deltoid mouth of which opens into Norton Sound of Bering Sea, discharges every hour one-third more water than the "Father of Waters." There is room for some very important measurements in this connection, which I hope will soon be made. Entering the mouth, or rather any one of the mouths, of this large river, we are impressed first by the exceeding shallowness of the sea 50 miles out from it, varying in depth from 2 to 3 fathoms; and, second, by the mournful, desolate appearance of the country itself, which is scarcely above the level of the tide, and which is covered with a monotonous

cloak of scrubby willows and rank grasses. The banks, wherever they are lifted above the reddish current, are continually undermined and washed away by the flood, and so sudden and precipitate are these landslides at times that traders and natives have barely escaped with their lives. For 100 miles up, through an intricate labyrinth of tides, blind and misleading channels, sloughs, and swamps, we pass through the same dreary, desolate region, until the higher ground is first reached at Kusilvak, and until the bluffs at Andreievsky and at Chatinakh give evidence of the fact that all the land in Alaska is not under water. It is watered, however, here, there, and everywhere, and impresses one with the idea of a vast inland sea, which impression holds good even as far up the river as 700 or 800 miles, where there are many points, even far in the interior, at which this river spans a breadth of 20 miles from shore to shore. As we advance toward its source we are not surprised, when we view the character of the country through which it rolls, at the vast quantity of water in its channel. It would seem as though the land itself, drained by the river on either side within Alaska, were a sponge, into which all rain and moisture from the heavens and melting snow are absorbed, never finding their release by evaporation, but conserved to drain, by myriads and myriads of rivulets, the great watery highway of the Yukon. I noticed a striking evidence of the peculiar nonconductive properties of the tundra mosses, or swale, last summer in passing through many of the thousand and one lakes and lakelets peculiar to that region, where the ice had bound up the moss and overhanging water growth at the edges of the lakes. In the breaking up and thawing out of summer that ice failed to melt, and the renewed growth of the season of vegetation, reaching out in turn from this icy border, will again prevent thawing, and so on until shallow pools and flats are changed into fixed masses of ice hidden from view.

The Yukon is formed by the junction of the Lewis and Pelly rivers. Mr. Wilson, in his "Guide to the Yukon Gold Fields," published at Seattle, 1895, gives the length of the Yukon as 2,044 miles, and says that it is navigable the entire distance for flat-bottom boats with a capacity of from 400 to 500 tons.

The White River, a portion of whose waters flows through Alaskan territory, empties into the Yukon on British territory. Forty Mile Creek, Birch and Beaver creeks join the river between Fort Yukon and Dawson, a British town. The following description of the topography of the Yukon River below Fort Yukon (966 miles from mouth) is quoted by Mr. Petroff from the

account of Capt. C. W. Raymond, United States Army (see Alaska, its Population, Industries, and Resources, pp. 89–90):

Fort Yukon is situated in latitude 66° 33′ 47″ and longitude 145° 17′ 47″, at a point where the Yukon receives the waters of the Rat or Porcupine River, a large tributary emptying on the right bank and flowing from its headwaters in a general direction a little south of west. From Fort Yukon to the mouth of the Chetaut River, a distance of about 200 miles, the river has a general direction about west-southwest, the country on both sides of the stream being low and level, usually consisting of sand or gravel. The average width of that portion of the river is about three-quarters of a mile, but in some places, measured across its numerous islands, it widens out to 5 or 6 miles. The current through all its passages is extremely rapid, and in many places the deepest channel does not carry more than 3 feet of water. Vegetation on the banks and islands is principally small willow and poplar, with occasional groves of spruce and birch.

From the mouth of the Chetaut River, however, the Yukon rapidly changes its character; the islands disappear, the banks rise into hills, and the stream gradually narrows into one channel, deep and rapid, until it finally rushes with great velocity through the Rampart range of hills. The bluffs composing this range rise abruptly from the water's edge, and are composed principally of a hard, greenish rock, though slate is occasionally observed, and at the principal rapids a ledge of granite crosses the river. Most of the hills are covered with groves of spruce and birch, but the trees are all small, and in many places they lie for some distance scattered in every direction, showing the small depth to which their roots descend in the frozen ground and the great force of the prevailing winds. From the Chetaut River to the Rampart rapids, a distance of some 60 miles, the Yukon flows in a direction nearly northwest, and averages about two-thirds of a mile in width, which decreases at the rapids to about 150 yards. The tributaries emptying into this section are also chiefly from the north and small in volume. The first native village met after descending from Fort Yukon is situated just below the rapids. From here to Nulato, a distance of some 240 miles, the river has a general direction about west by south. There are, however, many bends, although they are less sudden and numerous than in other portions of the river. After leaving the Rampart range the river widens again and diminishes in velocity. The right bank is generally hilly and abrupt, and on the left, though the shore is generally low or flat, the hills and bluffs occasionally approach the water's edge. The average width of the channel is about three-quarters of a mile, but occasionally groups of low islands cause a widening of the river. About 50 miles below the Nuklukaiet station, a

range of mountains appears on the right bank. This is a succession of well-defined peaks and ridges, describing a beautiful curve of many miles, with its concavity toward the river and its flanks resting upon the water's edge. All this bank is well timbered with spruce, poplar, and birch.

The principal northern tributaries of the river are the Koyakuk, the Porcupine, the Melozikat, and the Tozikakat. The Koyakuk was ascended by Lieutenant Allen for 532 miles from its mouth. He says that at that point, although there had been several large tributaries, the volume of water in the river had not apparently diminished. He estimates that the Koyakuk drains 55,000 square miles.

The Tanana empties into the Yukon on the south "about 30 miles below the Ramparts and near the great trading ground called Nuklukaiet, where the Indians are accustomed to congregate in the spring and meet the white traders." From the place where Lieutenant Allen reached the Tanana on his trip from the Copper River to the junction of the Tanana with the Yukon was 546 miles. The river, says Lieutenant Allen, drains 45,000 square miles. Owing to its violent rapids, it is dangerous to navigation. Continuing the description of the Yukon, Mr. Petroff says:

From Nulato, situated some 50 miles south of the mission, to Andreafski the distance is about 350 miles, and the river has the following approximate directions: From Nulato to Anvik, south-southwest; from Anvik to the upper entrance of Shageluk Slough, south-southeast; from the upper entrance of the slough to the great bend, southwest; from the great bend to Andreafski, west by south. It is difficult to convey an idea of this portion of the river, as its numerous windings, its hundreds of islands, its bars and shoals, ever changing and shifting, baffle the traveler in his search for a navigable channel. Generally speaking, the right bank is high, exhibiting many bluffs of sand and rock much eroded by the ice torrents of the spring. The ice sometimes undermines the high banks to a distance of 20 or 30 feet, and the trees standing on the projecting tops of the banks are loosened by the action of frost and water and precipitated into the stream beneath, and thus the river goes on widening and shoaling, and floating immense quantities of driftwood down to the sea. Sometimes the right bank rises into high hills, but the left bank is generally low and level; here and there, however, a few isolated hills are seen standing back a

mile or two from the water, and for nearly the whole distance a range of distant mountains parallel to the left shore is visible. In these mountains, lie the upper branches of the great river Kuskokwim.

Sandstone and slate continue throughout this portion of the Yukon Valley. . . . There are few tributaries of importance in this section of the river, but there are many small streams. The Takaiak joins the river some 50 miles below Nulato, and the Anvik about 110 miles lower down. The latter has steep banks and swift waters. About 130 miles below Nulato the Yukon separates into two branches, the main stream pursuing a southerly course, and the lesser branch, running at first a little south of east, makes finally a great bend to the south and west and enters the main river again about 60 miles below the point of separation. This lesser branch is called Chageluk Slough, and into it, a few miles from its entrance, empties the Chageluk or Innoko River. A little below Andreievsky the Yukon bends abruptly to the north and runs about northwest to the sea. The three principal outlets of the great river are the Aphoon or upper, the Kwikpak or middle, and the Kusilvak or lower mouth. The Aphoon outlet is about 40 miles in length and has an average width of perhaps one-third of a mile.

During the brief summer, adds Mr. Petroff, the whole population flocks to the river, attracted by the myriads of salmon. The banks are lined with summer villages and camps of fishermen, who build their basket traps far out into the eddies and bends of the stream and lay up their store of dried fish, or "yukala," for the long arctic winter. The traveler on the river during this busy season would form an entirely erroneous idea of the density of the population. The surrounding country is drained. Were he to make a brief excursion into the almost impenetrable forests and over the hills and mountains, he would quickly perceive that along the river alone exist the conditions necessary to sustain life throughout the year. The small rivulets of the interior and the vast swampy plains covered with snow for seven or eight months of the year are only visited by the trapper and hunter when the skins of the marten, mink, and muskrat are in their prime. Where the mountains are higher, along the upper courses of the Yukon and the Tanana, game is more abundant and the inhabitants are less dependent upon the river and its fish.

IV.

Climate.

Mr. Dall (Alaska and Its Resources, p. 285) says that the mild climate of the southern portion of Alaska is due to the Japanese current, which splits on the eastern end of the Aleutian chain, the smaller portion passing north to Bering Strait and preventing the flow of ice southward, and the other portion sweeping south of the islands, bringing a warm, moist atmosphere, which is responsible for the remarkable rainfall. "To fully appreciate," says Mr. Petroff, "how much moisture in the form of fog and rain settles upon the land, one can not do better than to take a walk through one of the narrow valleys to the summit of a lofty peak. He will step upon what appeared from a distance to be a firm greensward, and will sink to his waist in a shaking, tremulous bog."

A report prepared by Chief Willis L. Moore, of the United States Weather Bureau, on the climate of Alaska, is as follows:

The general conception of Alaskan climate is largely due to those who go down to the sea in ships, and this is not strange when we consider the vast extent of shore line—over 26,000 miles—possessed by that Territory. The climates of the coast and the interior are unlike in many respects, and the differences are intensified in this, as perhaps in few other countries, by exceptional physical conditions. The natural contrast between land and sea is here tremendously increased by the current of warm water that impinges on the coast of British Columbia, one branch flowing northward toward Sitka and thence westward to the Kadiak and Shumagin Islands.

The fringe of islands that separates the mainland from the Pacific Ocean from Dixon Sound northward, and also a strip of the mainland for possibly 20 miles back from the sea, following the sweep of the coast, as it curves to the northwestward, to the western extremity of Alaska, form a distinct climate

division, which may be termed temperate Alaska. The temperature rarely falls to zero; winter does not set in until December 1, and by the last of May the snow has disappeared except on the mountains. The mean winter temperature of Sitka is 32.5 degrees, but little less than that of Washington, D. C. While Sitka is fully exposed to the sea influence, places farther inland, but not over the coast range of mountains, as Killisnoo and Juneau, have also mild temperatures throughout the winter months. The temperature changes from month to month in temperate Alaska are small, not exceeding 25 degrees from midwinter to midsummer. The average temperature of July, the warmest month of summer, rarely reaches 55 degrees, and the highest temperature of a single day seldom reaches 75 degrees.

The rainfall of temperate Alaska is notorious the world over, not only as regards the quantity that falls, but also as to the manner of its falling, viz, in long and incessant rains and drizzles. Cloud and fog naturally abound, there being on an average but sixty-six clear days in the year.

Alaska is a land of striking contrasts, both in climate as well as topography. When the sun shines the atmosphere is remarkably clear; the scenic effects are magnificent; all nature seems to be in holiday attire. But the scene may change very quickly; the sky becomes overcast; the winds increase in force; rain begins to fall; the evergreens sigh ominously, and utter desolation and loneliness prevail.

North of the Aleutian Islands the coast climate becomes more rigorous in winter, but in summer the difference is much less marked. Thus, at St. Michaels, a short distance north of the mouth of the Yukon, the mean summer temperature is 50 degrees, but 4 degrees cooler than Sitka. The mean summer temperature of Point Barrow, the most northerly point in the United States, is 36.8 degrees, but four-tenths of a degree less than the temperature of the air flowing across the summit of Pikes Peak, Colo.

The rainfall of the coast region north of the Yukon Delta is small, diminishing to less than ten inches within the arctic circle.

The climate of the interior, including in that designation practically all of the country except a narrow fringe of coastal margin and the territory before referred to as temperate Alaska, is one of extreme rigor in winter, with a brief, but relatively hot, summer, especially when the sky is free from clouds.

In the Klondike region in midwinter, the sun rises from 9.30 to 10 a. m., and sets from 2 to 3 p. m., the total length of daylight being about four hours. Remembering that the sun rises but a few degrees above the horizon, and that it is wholly obscured on a great many days, the character of the winter months may easily be imagined.

We are indebted to the United States Coast and Geodetic Survey for a series of six months' observations on the Yukon, not far from the site of the present

gold discoveries. The observations were made with standard instruments, and are wholly reliable. The mean temperature of the months October, 1889, to April, 1890, both inclusive, are as follows: October, 33 degrees; November, 8 degrees; December, 11 degrees below zero; January, 17 degrees below zero; February, 15 degrees below zero; March, 6 degrees above zero; April, 20 degrees above. The daily mean temperature fell and remained below the freezing point (32) from November 4, 1889, to April 21, 1890, thus giving 168 days as the length of the closed season of 1889–90, assuming the outdoor operations are controlled by temperature only.

The lowest temperatures registered during the winter were: 32 degrees below zero in November, 47 below in December, 59 below in January, 55 below in February, 45 below in March, 26 below in April.

The greatest continuous cold occurred in February, 1890, when the daily mean for five consecutive days was 47 degrees below zero. The weather moderated slightly about the 1st of March, but the temperature still remained below the freezing point. Generally cloudy weather prevailed, there being but three consecutive days in any month with clear weather during the whole winter. Snow fell on about one-third of the days in winter, and a less number in the early spring and late fall months.

Greater cold than that here noted has been experienced in the United States for a very short time, but never has it continued so very cold for so long a time. In the interior of Alaska, the winter sets in as early as September, when snowstorms may be expected in the mountains and passes. Headway during one of these storms is impossible, and the traveler who is overtaken by one of them is indeed fortunate if he escapes with his life. Snowstorms of great severity may occur in any month from September to May, inclusive.

The changes of temperature from winter to summer are rapid, owing to the great increase in the length of the day. In May the sun rises at about 3 a. m. and sets about 9 p. m. In June it rises about 1.30 in the morning and sets at 10.30, giving about twenty hours of daylight, and diffuse twilight the remainder of the time.

The mean summer temperature of the interior doubtless ranges between 60 and 70 degrees, according to elevation, being highest in the middle and lower Yukon valleys.

Speaking of the temperature of St. Michael's and vicinity, Mr. Petroff quotes from Mr. E. W. Nelson's report (1880) to the Chief Signal Officer:

During the past four years, the first mush-ice has begun to form in the bays from the 15th to the 18th of October, and the bays have been frozen over so

as to bear a man from the 25th to the 28th of October, with the exception of the year 1878, when a strong wind took the ice out, and it did not freeze again until the 10th of November. Up to the 15th of October, vessels could enter here without danger of meeting ice. In the spring, much more uncertainty exists, as to a great extent the date of open water depends upon what the prevailing winds may be. Long-continued north winds, following a severe winter, as in 1880, may keep the ice barrier in until the 20th of June, and it has even remained until nearly the 1st of July; but these late dates are exceptional. As a rule, the ice will be thoroughly broken up and a strong vessel may enter Norton Sound through the ice by the 10th of June. Between the 20th of June and the 1st of July may be called safe dates for any vessel except in an unusual season, as during a large part of June fine weather prevails.

As in most other places under high latitudes, there is no long gradation from season to season, but instead we have two well-marked periods—a long winter of about seven months, extending from October until well into May, and five months of summer. The winter is by far the best, as there are long periods of beautifully clear days, which are welcomed in spite of the usually accompanying intense cold. The summer is rendered very disagreeable by a large number of cold, misty rains, and the low overhanging stratum, which appears to shut down all about like a leaden covering.

As a natural result of these climatic conditions, the warm weather brings swarms of mosquitoes. Mr. Petroff says (speaking especially of the Kuskokwim region, although the same complaint is made by travelers in other sections):

There is a feature in this country which, though insignificant on paper, is to the traveler the most terrible and poignant infliction he can be called upon to bear in a new land. I refer to the clouds of bloodthirsty mosquitoes, accompanied by a vindictive ally in the shape of a small poisonous black fly, under the stress of whose persecution the strongest man with the firmest will must either feel depressed or succumb to low fever. They hold their carnival of human torment from the first growing of spring vegetation in May until it is withered by frosts late in September. Breeding here as they do in the vast network of slough and swamp, they are able to rally around and to infest the wake and the progress of the explorer beyond all adequate description, and language is simply unable to portray the misery and annoyance accompanying their presence. It will naturally be asked, How do the natives bear this? They, too, are annoyed and suffer, but it should be borne in mind that their bodies are annointed with rancid oil; and certain ammoniacal vapors, peculiar to their garments from

constant wear, have a repellant power which even the mosquitoes, bloodthirsty and cruel as they are, are hardly equal to meet. When traveling, the natives are, however, glad enough to seize upon any piece of mosquito net, no matter how small, and usually they have to wrap cloths or skins about their heads and wear mittens in midsummer. The traveler who exposes his bare eyes or face here loses his natural appearance; his eyelids swell up and close, and his face becomes one mass of lumps and fiery pimples. Mosquitoes torture the Indian dogs to death, especially if one of these animals, by mange or otherwise, loses an inconsiderable portion of its thick hairy covering, and even drive the bear and the deer into the water.

V.

Towns and Trading Posts.

The capital of the Territory is Sitka, located in 57° N., 135° 17′ W., on a low strip of land on the west of Baranof Island. Mount Edgecumbe, an extinct volcano of 8,000 feet, opposite the town, is the landmark of the port. There is an industrial school, and the population was 1,190 in 1890. Salmon fishing and curing is the chief industry. Steamers ply once a month between Sitka and Portland, Oreg. The harbor is small but commodious. Mean temperature (forty-three years), January, 31.4°; August, 55.9°. Annual rainfall (thirty years), 84.06 inches. Senator Charles Sumner of Massachusetts called attention to the fact that the winter of Sitka is milder than that of many European capitals—Berlin, Copenhagen, Berne, Stuttgart, Vienna, or Turin. Mr. Dall (p. 255) says that the shortest distance from San Francisco Harbor to Sitka is 1,296 miles. By the inner passage, between the archipelago and the coast of British Columbia and Alaska, the distance is 1,647 miles; large sailing vessels have to go outside. Juneau (population 1,253, census of 1890) is located near the Lynn Channel, by which there are trails to the Yukon. Mr. Wilson (Guide to the Yukon Gold Fields) says that the year 1895 witnessed a great improvement in the town, and Juneau is to-day a progressive city with fine buildings, wharves, electric lights, waterworks, hotels, etc.

Wrangell, on the northern part of the island of the same name, is about 10 miles from the mouth of the Stikine, and is the point of departure for traders and miners penetrating into the interior by

way of that river. The regular mail steamer from Portland touches here both on the outward and return trips. There are 316 inhabitants.

Douglas City, on Douglas Island, near Juneau, has a population of 402. This is the location of the Treadwell gold mine, with, it is said, the largest quartz mill in the world. Yakutat (population 308) is on Yakutat Bay. Nuchek is situated on Hinchinbrook Island, 432 miles by sea from Sitka, and 50 miles from the mouth of the Copper River. It was formerly an important trading post, but much of the commerce has been transferred.

In regard to the Kenai peninsula, Mr. Petroff says:

Two of the trading stations are located at English Bay and Seldovia. Three more stations, consisting each of two rival stores, are located at Kenai (Rédoute St. Nicholas), on the river Kinik, and the village of Toyonok, or West Foreland.

The central point of all this region is Kenai, once the site of the earliest permanent settlement on the inlet, the remnants of which can still be seen. A Russian missionary is located here, and a new church is nearly completed. At the time of the transfer of the Territory, Kenai was still a fortified place, with a high stockade and octagonal bastions at the salient points. Both stockade and bastions, with their primitive armament of 1½-pound falconets, have disappeared since then, but a number of new buildings have sprung up, and a thrifty colony of creoles has taken to the cultivation of potatoes and turnips on a larger scale than had ever been attempted before. Perhaps 10 or 12 acres are planted here now, and several of the families keep cattle. Some of the choicest salmon of the Territory is salted here and is barreled and shipped to San Francisco. The hunting grounds in the immediate vicinity do not yield their former abundance of valuable furs, but the presence of the missionary establishment causes a concentration of natives from all parts of the inlet at least once a year and brings considerable trade to this old station. It was on the river Kaknu, or Kenai, that the Russian mining engineer Doroshin reported the existence of surface gold in paying quantities. After laboring with a numerous party in the mountains for two seasons, at great expense to the Russian-American Company, he returned with a few ounces of the precious metal, but he could present no inducement to the corporation to proceed any further in this enterprise. Since that time American prospectors have passed years in this region following up the Russian's tracks, but not one of them has thus far found gold enough to warrant him to work the find. In former years Kenai was also the site of a

large brickyard, the only establishment of the kind in the colony, from which all stations and settlements were supplied with the material for the old-fashioned Russian ovens or heaters.

About 30 miles down the coast from Kenai, there is another settlement deserving at least a passing notice. A number of "colonial citizens," or superannuated employees of the old Russian company, were ordered to settle some fifty or sixty years ago at Ninilchik, and their descendants live there still. Each family has quite a large garden patch of turnips and potatoes, yielding enough to allow the owners to dispose of a large surplus to traders and fishermen. They have quite a herd of cattle, and the women actually make butter; but they are not sufficiently advanced in farming lore to construct or use a churn, and the butter is made in a very laborious manner by shaking the cream in bottles. They also raise pigs and keep poultry, but on account of the hogs running on the seashore, digging clams and feeding upon kelp, and the chickens scratching among fish bones and other offal, both their poultry and their pork are fishy to such an extent as to be made unpalatable.

In the vicinity of Anchor Point, on Kuchekmak Gulf, and on Graham's or English Harbor, extensive coal veins appear along the bluffs and come to the surface. The Russian-American Company, jointly with a San Francisco firm, worked here for years to develop the mines and obtain a product good enough for the use of steamers and engines, but after sinking a large capital the enterprise was abandoned before the transfer of the Territory took place. A few remnants of the extensive buildings erected in connection with these mining operations still remain on the north shore of English Bay.

St. Paul, on the northern part of Kadiak Island, does a large fur trade. There are a number of salmon canneries on the island, employing in 1890, according to Longman's Gazetteer (p. 764), 1,100 hands. Karluk (population, 1,123) is said to have the largest cannery in the world. Kadiak (495), Alitak (420), and Afognak (409) are other villages on the island.

On the Aleutian Islands, there are many settlements. The one on Ounga Island has a population of about 200, according to Mr. Petroff. Belkowsky, on the southern end of the Aliaska Peninsula, has 300 inhabitants. Near Protassof (100 inhabitants) there are warm sulphur springs and ponds. Iliuliuk, on Unalaska Island, is a point of considerable commercial importance, having a church, custom-house, trading establishments, wharves, etc. Ni-

kolsky, on the south of Unimak Island, has 127 inhabitants; it was formerly much larger. Nazan, on Atkha Island, has a population of 230, described by Mr. Petroff as thrifty and prosperous. St. Paul, on the Pribilof Islands, had in 1882 a population of 298. The Amukhta (172° longitude) and the Unimak (160° longitude) are the two safe passes between the islands.

St. Michaels, on Norton Sound, is one of the most important localities on the coast. It is a trading post, says Mr. Petroff, where rival firms have established their depots for the Yukon River and Arctic trade. The station keepers come down from the interior to the coast at the end of June or 1st of July, and each receives his allotment of goods to take back with him in sailboats and bidars during the few months when navigation on the river is not impeded by ice. The vessels supplying this depot can seldom approach the post before the end of June, on account of large bodies of drifting ice that beset the waters of Norton Sound and the straits between St. Lawrence Island and the Yukon delta. St. Michaels is the usual landing place for the Yukon Valley. Travelers follow a trail across the country, and reach Yukon some 392 miles from its mouth. Lieutenant Allen says that the distance from St. Michaels to the mouth of the Unalaklik River is 55 miles by coast. He ascended the river 14 miles to a village called Ulukuk, and followed the trail some 32 miles to the Autokakat River. A descent of this stream for 3 miles brought him to the Yukon.

Port Clarence, on the bay of the same name, is the place where whalers wait for their tenders before proceeding through the straits. The harbor is excellent. There is a reindeer farm here, and the population numbers 485. Point Hope (population 301), Cape Lisburne, Icy Cape, and Point Barrow are the most important points on the northern coast.

Nulato and Nuklakayet are trading posts on the Yukon River, the former being 467 miles from the sea, according to Lieutenant

Allen, and Nuklakayet 201 miles farther. Fort Yukon (about 300 miles distant from Nuklakayet) was formerly a trading post. Lieutenant Schwatka says it was abandoned about 1880 as not remunerative, and Fort Reliance and Belle Isle were established. Both of these have since been abandoned. At Fort Yukon, the river is said to be 7 miles wide.

Circle City, between Fort Yukon and Belle Isle, had a population in 1896 of 1,150. (Report on Introduction of Domestic Reindeer into Alaska, by Sheldon Jackson, D. D., Senate Doc. No. 49, Fifty-fourth Congress, second session.) Missions have been established and hospitals proposed. There are some 40 white women in the district.

VI.

Forests of Alaska—Varieties of Timber.

Speaking of the resources of Alaska, Mr. Petroff says:

The timber of Alaska extends over a much larger area than a great many surmise. It clothes the steep hills and mountain sides, and chokes up the valleys of the Alexander archipelago and the contiguous mainland; it stretches, less dense but still abundant, along that inhospitable reach of territory which extends from the head of Cross Sound to the Kenai Peninsula, where, reaching down to the westward and southwestward as far as the eastern half of Kadiak Island, and thence across Shelikof Strait, it is found on the mainland and on the peninsula bordering on the same latitude; but it is confined to the interior opposite Kadiak, not coming down to the coast as far eastward as Cape Douglas. Here, however, it impinges on the coast or Cook Inlet, reaching down to the shores and extending around to the Kenai Peninsula. From the interior of the peninsula, above referred to, the timber line over the whole of the interior of the great area of Alaska will be found to follow the coast line, at varying distances of from 100 to 150 miles from the seaboard, until that section of Alaska north of the Yukon mouth is reached, where a portion of the coast of Norton Sound is directly bordered by timber as far north as Cape Denbigh. From this point to the eastward and northeastward, a line may be drawn just above the Yukon and its immediate tributaries as the northern limit of timber of any considerable extent.

The trees, adds Mr. Petroff, are mostly evergreen, the spruce family preponderating to an overwhelming extent. Boards of the spruce are not adapted for nice finishing work in building, or in cabinet ware, or, indeed, in anything that requires a finish; for under the influence of slight degrees of heat, it sweats, exuding minute globules of gum or resin, sticky and difficult to remove. The white birch is found throughout the region that supports the spruce—scattered or in small bodies—chiefly along the water courses. The alder and willow are found on all the low lands, reaching far beyond the northern and western limit of the spruce.

A poplar, resembling our cottonwood, attaining great size under favorable circumstances, is also found in nearly all the timbered sections of Alaska south of the Arctic Circle. To the westward of the one hundred and forty-first meridian, no timber grows at an altitude higher than 1,000 feet above the sea level. A slightly curved line, beginning at the intersection of the coast hills of the east shore of Norton Sound with the Unalaklik River, passing across the Yukon and Kuskokwim rivers, the mouth of the Nushagak, across the Alaska Peninsula, and impinging upon the North Pacific in the vicinity of Orlova Bay, on Kadiak Island, will serve as the western limit of spruce forest in Alaska.

With reference to quality, continues Mr. Petroff, the trees may be divided as follows:

1. YELLOW CEDAR (*Cupressus nutkanensis*).—This is one of the most valuable woods on the Pacific Coast, combining a fine, close texture, with great hardness, durability, and a peculiar but pleasant odor. The Russians named it "dushnik" (scented wood) on account of the last-named quality. In the immediate vicinity of Sitka, on Baranof and adjoining islands, this tree was nearly exterminated by the Russians, but on the Kehk Archipelago (Koo Island), and on Prince of Wales Island and a few others of the Alexander Archipelago, near the British Columbian frontier, considerable bodies of it can still be found, and beyond the line, in the Nass and Skeena River valleys, it is also abundant.

2. SITKA SPRUCE (*Abies sitkensis*).—This is the universal forest tree of Alaska, and is found of gigantic size on the islands of the Alexander Archipelago and on the shores of Prince William Sound. Its medium growth it appears to attain in the valleys of the Yukon and the Kuskokwim, while on the east side of Cook Inlet and on the more northern uplands, it is quite stunted and dwarfed. The Sitka spruce is most closely connected with the various requirements of all Alaskan natives in their domestic economy, as its timber is used in the construction of nearly every dwelling throughout the country, and even those tribes which inhabit barren coasts far removed from the limits of coniferous trees are supplied with it through means of freshets and ocean currents. The sappy outer portion of the wood furnishes splinters and torches that light up during the long months of winter the dark dwellings of interior tribes of Tinneh stock, who know not the oil lamp of their Innuit neighbors. The same material is also used for sledge runners on loose but crisp-frozen snow, over which iron or steel would drag with difficulty, as over deep, coarse sand. The Thlinket and the

Hyda fashion their buoyant and graceful canoes, both large and small, from spruce logs, and split from them also the huge planks used in the construction of their houses. The lumber manufactured from the Sitka spruce is much less durable than the yellow cedar, very knotty, and consequently not adapted for shipbuilding.

3. HEMLOCK (*Abies mertensiana*).—Though this tree generally exceeds the spruce in size, it is of rare occurrence, much less valuable as timber, but well adapted for fuel.

BALSAM FIR (*Abies canadensis*).—This tree is found only in small, scattered bodies, and is of little value as timber, but the natives use its bark for tanning and for other purposes.

5. SCRUB PINE (*Pinus contorta*).—The scrub pine is found throughout the interior of Alaska in small, scattered bodies up to the highest latitudes, but it is of no value as timber.

Thus it will be seen that the forests of Alaska are altogether coniferous, as the small bodies of birch and the alder and willow thickets on the lower Yukon and Kuskokwim rivers can scarcely be considered to come under this head. Aside from the yellow cedar, which is rare, the timber wealth of Alaska consists of the Sitka spruce, which is not only abundant and large (trees of from 3 to 4 feet in diameter being quite common in southeastern Alaska and Prince William Sound), but also generally accessible.

To give even an approximate estimate of the area of timbered lands in Alaska is at present impossible, in view of our incomplete knowledge of the extent of mountain ranges, which, though falling within the timber limits, must be deducted from the superficial area of forest covering.

A few small sawmills of exceedingly limited capacity have been erected at various points in southeastern Alaska, to supply the local demand of trading posts and mining camps, but finished building lumber is still largely imported even into this heavily timbered region. In all western Alaska, but one small sawmill is known to exist, which is on Wood Island, St. Paul Harbor, Kadiak. This mill was first set up to supply sawdust for packing ice, but since the collapse of that industry, its operations have been spasmodic and not worth mentioning. Lumber from Puget Sound and British Columbian mills is shipped to nearly all ports in western Alaska for the use of whites and half-breeds, while the natives in their more remote settlements obtain planks and boards by the very laborious process of splitting logs with iron or ivory wedges. On the treeless isles of the Shumagin and Aleutian groups, as well as in the southern settlements of the Alaska peninsula, even firewood is imported from more favored sections of the Territory and commands high prices.

The driftwood washed upon the shores of Bering Sea and the Arctic is of very little value as building material and can not be worked into lumber.

VII.

Agricultural Resources.

In regard to the agricultural resources of Alaska, Mr. Petroff says that it has been settled by patient experiments that cereal crops can not be grown. Nor can the fruit trees and small fruits of the United States be cultivated with success, unless it be the strawberry and the cranberry. He continues:

Taking up the subject of the vegetable garden, it is found that there are localities in Alaska where for the last eighty years, or even more, up to the present date good potatoes have been raised, though I should say, perhaps, that the raising of these tubers is not a certain success year after year, except at one or two points within the Alexander Archipelago, namely, at the mouth of the Stakhin River, at Fort Wrangel, and on Prince of Wales Island. The potato grounds of Alaska, however, can with due care and diligence be made to furnish in the Alexander Archipelago, in Cook Inlet, at Kadiak Island and islets contiguous, and at Bristol Bay a positive source of food supply to the inhabitants. It is not generally known that on Afognak Island there are nearly 100 acres of land, dug up in patches here and there, which are planted by the inhabitants and from which they gather an annual harvest of potatoes and turnips; but there are no fields spread out, squared up, and plowed anywhere in Alaska. The little openings in the forest or the cleared sides of a gently sloping declivity in sheltered situations are taken up by the people, who turn out with rude spades, of their own manufacture principally, for the purpose of subjugating and overturning the sod. Many of the gardens, noticeably those at the Kadiak village, are close by the settlement, while others are at some distance.

The potato crop at Kadiak in 1880 was a total failure, and this happens at intervals of from four to six years. The winter preceding the planting in 1880 was an unusually cold and protracted one, and the season, short at the best, was cut off by unwonted early frosts during September and the latter part of August. The usual growing season, however, opens early in June, from the 1st

to the 10th, and the potatoes are planted in May, coming up and growing freely until October, when they are harvested. This growth of potatoes, fairly established and well defined, presents the only firm and tangible evidence of agricultural capacity within the limits of Alaska. The turnip grows and flourishes wherever the potato succeeds.

Mr. Petroff says, in conclusion, that although Alaska will not support any considerable number of people as agriculturists, it is apparent that the existence of those who live in the Territory can be improved by better attention to the development of the resources latent in the soil in certain localities. The people are disinclined to labor in this direction, preferring the profits of hunting. It will be found that points located by the Russians eighty years ago as most suitable for gardening are the best to-day.

Captain Beardslee, United States Navy, speaking of the agricultural conditions in the vicinity of Sitka, says (Reports on Affairs in Alaska, Senate Ex. Doc. No. 71, Forty-seventh Congress, first session, p. 125):

Whether it be due to the change of climate through the clearing away of many acres of forest or to improved methods I can not say, but for several years past excellent vegetables, such as potatoes, cabbages, etc., have been raised yearly in the neighborhood of Sitka and Wrangel. Near Sitka there are a large number of plots under cultivation. I have seen, two seasons in succession, lettuce of several varieties, cabbages a yard across before they began to head, and 8 to 10 inches in diameter headed; cauliflower weighing from 10 to 15 pounds, early rose and peachblow potatoes ranging from 3 to 30 ounces each, and each hill yielding over half a bucket full; turnips of very large size, and cress, radishes, etc., in profusion; green pease of excellent quality, and beds bordered by gooseberries and currant bushes, producing loads of fruit. My lettuce bed kept me supplied from June to September.

As to the character of the country in the Yukon region, Mr. Dall (Alaska and its Resources, p. 433) says that it varies from rolling and somewhat rocky hills to broad and marshy plains, extending for miles on either side of the river. The underlying rocks in great part are Azoic, being conglomerate, syenite and quartzite. The south shore of Norton Sound and portions of the Kadiak

Peninsula are basalt and lava. There is on the northeast shore of Norton Sound an abundance of sandstone and clay beds containing lignite. Sandstone is also abundant on the Yukon, alternating with the Azoic rocks. The superincumbent soil differs in different places. In some localities, it is clayey, and in such situations is quite frequently covered with sphagnum, which always impoverishes the soil immediately beneath it. In others, it is light and sandy, and over a large extent of country it is the richest alluvial, composed of very fine sand, mud, and vegetable matter, brought down by the river and forming deposits of indefinite depth. * * * The soil is usually frozen at a depth of 3 or 4 feet in ordinary situations. In colder ones, it remains icy to within 18 inches of the surface. This layer of frozen soil is 6 or 8 feet thick. Below that depth, the soil is destitute of ice, except in very unusual situations.

Lieutenant Allen (Report on Expedition to Alaska, 1885) says:

I believe that lettuce, radishes, turnips, beans, peas, potatoes, carrots, and possibly buckwheat and barley, can be raised in favored localities on the middle and upper Yukon and Tanana. The climatic conditions of the coast do not prevail here; there is not as much humidity. . . . The summers, though short, are very hot. The sun is almost continually above the horizon, and the thermometer has been known to read 112° and 115° F. Although the soil usually remains frozen the year round at a depth of 1 or 2 feet below the surface, this would not necessarily interfere with agricultural pursuits. By cultivation and proper drainage, the distance of the ice bed below the surface would be considerably increased.

CATTLE.

With reference to cattle and other live stock, Mr. Petroff says:

There have been repeated attempts to raise stock cattle, sheep, and hogs in large herds within the borders of Alaska. The subject is one in which the Russians first naturally took a deep interest, for they were fond of good living and were as desirous as any people could be to have the best of beef or mutton and the sweetest pork on their tables. They brought over hardy selections from the Siberian stock, placing the cattle at almost every point of importance for trial. The result, after years of patient and persistent attention, was that

the herds on Kadiak Island throve the best and became of real service in assisting to maintain the settlement. Here there is a very fine ranging ground for pasture, and in the summer there is the greatest abundance of nutritious grasses, but when the storms of October, freighted with snow, accompanied by cold and piercing gales, arrive and hold their own until the following May, the sleek, fat herd of September becomes very much worn and emaciated. It has given its owner an undue amount of trouble to shelter and feed. Hay, however, suitable for cattle, or at least to keep cattle alive, can be cut in almost any quantities desired for that purpose, but the stress of weather alone, even with abundance of this feed, depresses as it were and enfeebles the vitality of the stock, so that the herds on Kadiak Island have never increased to anything approximating a stock grower's drove, rarely exceeding 15 or 20 head at the most. Notable examples of small flocks of sheep which have been brought up since the transfer and turned out at Unalaska, Unga, and elsewhere have done well. The mutton of the Alaskan sheep when it is rolling in its own fat, as it were, is pronounced by epicures to be very fine; but the severe winters, which are not so cold as protracted—when the weather is so violent that the animals have to huddle for weeks in some dark, low shelter, cause a sweating or heating of their wool, which is detached and falls off—greatly enfeebling and emaciating them by spring. The practice of the traders at some places now is to bring beef cattle up in the spring from San Francisco, turn them out into the grazing grounds on the Aleutian Islands, Kadiak, and even to the north, where they speedily round out and flesh up into the very finest beeves by the middle or end of October, when they are slaughtered.

Horses, according to Mr. Petroff, have been kept on Wood Island, Kadiak Harbor, for years. A field of 12 acres of oats is regularly sown for their use. The oats grow and frequently head, but never ripen; the planters cut the green crop for haying purposes. Mules and horses have no economic value, there being little service for them on land.

REINDEER.

Dr. Jackson (Report on Introduction of Domestic Reindeer into Alaska, 1896), says that the vast territory of central and arctic Alaska, unfitted for agriculture or cattle raising, is abundantly supplied with long, fibrous white moss, the natural food of the reindeer. Taking the statistics of Norway and Sweden as a guide,

arctic and subarctic Alaska can support 9,000,000 reindeer, furnishing a supply of food, clothing, and means of transportation to a population of a quarter of a million. Providence has adapted the reindeer, continues Dr. Jackson, to the peculiar conditions of arctic life, and it furnishes the possibilities of large and increasing commercial industries. The flesh is considered a great delicacy, whether fresh or cured. The untanned skin makes the best clothing for the climate of Alaska, and when tanned is the best leather for the bookbinder, upholsterer, and glove maker. The hair is in great demand, by reason of its wonderful buoyancy, in the construction of life-saving apparatus. The horns and hoofs make the best glue known to commerce. With Alaska stocked with this valuable animal, enterprises would be developed amounting to millions of dollars annually.

Reindeer will also be found very useful in transportation. Dogs have been used for this purpose, but they are slow and must be burdened with the food for their own maintenance. Provisions and freight brought from the south and landed in Alaska are with great difficulty transported to the mining regions. During the winter of 1895–96, Dr. Jackson says, mongrel Indian dogs cost $100 to $200 each for transportation purposes, and the freight charges ranged from 15 to 20 cents per pound. Trained reindeer make in a day two or three times the distance covered by a dog team, and at the end of the journey, can be turned loose to gather their support from the moss always accessible to them. One drawback to their introduction appears to be a disease which attacks the hoof, due to the damp soil. There are now five herds in Alaska, one at Cape Prince of Wales, one at Cape Nome, two at Golovin Bay, and the central Government herd at the Teller reindeer station, Port Clarence, including 1,175 head.

VIII.

The Fur Seal and Other Fisheries.

Mr. James C. Carter, in his oral argument on behalf of the United States, before the Tribunal of Arbitration, at Paris, 1893, gives the following concise sketch of the fur-seal controversy: "During most of the eighteenth century, as all are aware, the efforts and ambitions of various European powers were directed toward the taking possession, the settlement, and the colonization of the temperate and tropical parts, of the American Continent. In those efforts, Russia seems to have taken a comparatively small part, if any part at all. Her enterprise and ambition were attracted to these northern seas, seas which border upon the coasts which in part she already possessed, the Siberian coast of Bering Sea. From that, coast explorations were made by enterprising navigators belonging to that nation, until the whole of Bering Sea was discovered, and the coasts on all its sides explored. The Aleutian Islands, forming its southern boundary, were discovered and explored, and a part of what is called the Northwest Coast of the American Continent, south of the Alaskan Peninsula and reaching south as far as the fifty-fourth or fiftieth degree of north latitude, was also explored by Russian navigators, and establishments were formed upon it in certain places. The great object of Russia in these enterprises and explorations was to reap for herself the sole profit and the sole benefit which could be derived from these remote and icebound regions; namely, that of the fur-bearing animals which inhabited them and which were gathered by the native inhabitants. To obtain for herself

the benefit of those animals and of the trade with the natives who were engaged in gathering them that constituted the main object of the original enterprises prosecuted by Russian navigators. They had at a very early period discovered what we call the Commander Islands on the western side of the Bering Sea, which were then, as they are now, one of the principal resorts and breeding places of the fur seals. They were carrying on a very large, or a considerable, industry in connection with those animals upon those islands.

Prior to the year 1787, one of their navigators, Captain Pribilof, had observed very numerous bodies of fur seals making their way northward through the passes of the Aleutian chain. Whither they were going he knew not, but, from his knowledge of the habits of the seals in the region of the Commander Islands, he could not but suppose that there was, somewhere north of the Aleutian chain in the Bering Sea, another great breeding place and resort for these animals. He therefore expended much labor in endeavoring to discover these resorts, and in the year 1786, I think, on one of his voyages, he suddenly found himself in the presence of that tremendous roar—a roar almost like that of Niagara, it is said—which proceeds from the countless multitudes of animals upon the islands. He knew then that the object for which he was seeking had been obtained; and waiting until the fog had lifted, he discovered before him the islands to which his name was afterwards given. That was in 1786. Immediately following that discovery many Russians, sometimes individually and sometimes associated in companies, resorted to those islands, which were uninhabited, and made large captures of seals from them. The mode of taking them was by an indiscriminate slaughter of males and females; and of course, it was not long before the disastrous effects of that method became apparent. They were greatly reduced in numbers, and at one or more times, seemed to be upon the point almost of commercial extermination. By degrees,

those engaged in this pursuit learned what the laws of nature were in respect to the preservation of such a race of animals. They learned that they were highly polygamous in their nature, and that a certain draft could be taken from the superfluous males without sensibly depreciating the enormous numbers of the herd. Learning those facts, they gradually established an industry upon the islands, removed a considerable number of the population of one or more of the Aleutian Islands, and kept them permanently there for the purpose of guarding the seals upon the islands and taking, at the time suitable for that purpose, such a number of superfluous males as the knowledge they had acquired taught them could be safely taken.

Finally, the system which they established grew step by step more regular and precise; and sometime—I think I may say in the neighborhood of 1845—they had adopted a regular system which absolutely forbade the slaughter of females and confined the taking to young males under certain ages and to a certain annual number. Under that reasonable system, conforming to natural laws, the existence of the herd was perpetuated and its numbers even largely increased; so that at the time when it passed into the possession of the United States, I think I may say it was true that the numbers of the herd were then equal to, if not greater, than ever had been known since the islands were first discovered. A similar system had been pursued by the Russians with similar effect upon the Commander Islands, possessions of their own on the western side of the Bering Sea.

The advantage of these results, so beneficial to Russia, so beneficial to mankind, may be more easily perceived by comparing them with the results which have flowed from the discovery of other homes of the fur seal in other seas. It is well known that south of the equator and near the southern extremity of the South American continent, there were other islands, Masafuera, Juan Fernandez, Falkland Islands, and other places where there were

seals in almost equal multitudes. They were on uninhabited islands. They were in places where no protection could be extended against the capture of them. They were in places where no system of regulations limiting drafts which might be made upon them could be established, and the consequence was that in a few short years, they were practically exterminated from every one of such haunts and have remained ever since practically, in a commercial point of view, exterminated, except in some few places over which the authority of some power has been exercised, and where regulations have been adopted more or less resembling those adopted upon the Pribilof Islands, and by which means the race has to a certain extent, although comparatively small, been preserved.

That was the condition of things when these islands passed into the possession of the United States under the treaty, between that Government and Russia, of 1867. At first, upon the acquisition by the United States Government, its authority was not immediately established and, consequently, this herd of seals was exposed to the indiscriminate ravages of individuals who might be tempted thither by their hope of gaining a profit; and the result was that in the first year, something like 240,000 seals were taken, and although some discrimination was attempted and an effort was made to confine the taking, as far as possible, to males only, yet those efforts were not in every respect successful. That great draft thus irregularly and indiscriminately made upon them had undoubtedly a very unfavorable effect; but the following year, the United States succeeded in establishing its authority and at once readopted the system which had been up to that time pursued by Russia and which had been followed by such advantageous results.

In addition to that, and for the purpose of further insuring the preservation of the herd, the United States Government resorted to national legislation. Laws were passed, the first of them as

early as the year 1870, designed to protect the seal and other fur-bearing animals in Bering Sea and the other possessions recently acquired from Russia. At a later period, this statute, with others that had been subsequently passed, was revised, I think in the year 1873, when a general revision of the statutes of the United States was made. They were revised and made more stringent. It was made a criminal offense to kill any female seal; and the taking of any seals at all, except in pursuance of the authority of the United States and under such regulations as it might adopt, was made a criminal offense. Any vessel engaged in the taking of female seals in the waters of Alaska, according to the phrase used in the statute, was made liable to seizure and confiscation; and in this way, it was hoped and expected that the fur seals would be preserved in the future as completely as they had been in the past, and that this herd would continue to be still as productive as before, and if possible, made more productive. That system thus initiated by the United States in the year 1870 produced the same result as had followed the regulations established by Russia. The United States Government was enabled, even, to take a larger draft than Russia had prior to that time, made upon the herd. Russia had limited herself at an early period to the taking of somewhere between 30,000 and 40,000 seals annually, not solely, perhaps, for the reason that no more could be safely taken from the herd, but also for the reason, as I gather from the evidence, that at that time, the demand for seals was not so great as to justify the putting of a larger number of skins upon the market.

At a later period of the occupation by Russia, her drafts were increased. At the time when the occupation was transferred to the United States, I think they amounted to somewhere between 50,000 and 70,000 annually. The United States, as I say, took 100,000 from the beginning, and continued to make those annual drafts of 100,000 down to the year 1890. That is a period of something like nineteen years. The taking of this number of

100,000 did not, at first, appear to lead to any diminution in the numbers of the herd; and it was only in the year 1890, or a few years prior to that time, that a diminution in the numbers of the herd was first observed. This diminution was at that time attributed to causes of which I shall presently say something.

Such was the industry established by the United States. It was a very beneficial industry—beneficial, in the first instance, to herself. She had adopted the practice of leasing these islands upon long terms—twenty years—to a private corporation; and those leases contained an obligation to pay a large annual sum in the shape of a revenue tax and a gross sum of some $60,000 as rent. In addition to that, the lessees were required by the terms of the lease to pay to the United States Government a certain sum upon every seal captured by them, which, of course, resulted in the enjoyment by the United States of a still larger revenue. It was beneficial to the lessees, for it is to be supposed, and such is the fact, that they were enabled to make a profit notwithstanding the large sums they were compelled to pay to the United States Government upon the seal skins secured by them. But while it was profitable to the United States and profitable to the lessees, I may say—and this is what at all times I wish to impress upon this Tribunal—it was still more important and beneficial to the world at large. The fur seal is one of the bounties of Providence, bestowed, as all the bounties of Providence are, upon mankind in general, not for the benefit of this particular nation or that particular nation, but for the benefit of all; and all the benefit, of course, which mankind can get from that blessing is to secure the annual taking, use, and enjoyment of the increase of the animal. That is all they can obtain from it. If they seek to obtain more, it is an abuse of the blessing, involving destruction — necessary destruction — and they soon deprive themselves of the benefit altogether.

This, therefore, was the benefit to mankind which was made pos-

sible, and which was enjoyed by mankind by this particular mode of dealing with the fur seals which had been established and carried on upon the Pribilof Islands. Mankind received the benefit of the entire annual increase, and at the same time, the stock was perpetually preserved and kept from any sort of peril; and in that benefit the citizens of the United States enjoyed, of course, no advantage over the rest of the world. The whole product of the herd was contributed at once to commerce, and through the instrumentality of commerce was carried all over the world to those who desired the sealskins, and those who desired sealskins, wherever they might be on the face of the globe, and whatever nation they might inhabit, got them upon the same terms upon which the citizens of the United States enjoyed them. This contribution of the annual product to the purposes of commerce, to be dealt with as commerce deals with one of its subjects, of course amounted substantially to a putting it up at auction, and it was awarded to the highest bidder, wherever he might dwell.

The effect of this was, also, as we shall have occasion to see in the course of this discussion, to build up and maintain an important industry in Great Britain. It was there that the sealskins were manufactured and prepared for sale in the market, and thousands of people were engaged in that industry, many more, indeed, than were engaged in the industry of gathering the seals upon the Pribilof Islands. That particular benefit was secured to Great Britain in consequence of this industry.

In the few years preceding 1890, the Government of the United States was made aware of a peril to the industry which had thus been established and which it was in the enjoyment of, a peril to the preservation of this race of seals, a peril not proceeding from what may be called natural causes, such as the killing by whales and other animals which prey upon the seals in the water, but a peril proceeding from the hand of man. It was found that the practice of pelagic sealing, which had for many years, and indeed

from the earliest knowledge of these regions, been carried on to a very limited extent by the Indians who inhabited the coasts for the purpose of obtaining food for themselves and skins for their clothing, and which had made a limited draft upon the herds in that way—it was found that this practice was beginning to be extended so as to be carried on by whites, and in large vessels capable of proceeding long distances from the shore, of encountering the roughest weather, and of carrying boats and boatmen and hunters, armed with every appliance for taking and slaughtering the seals upon their passage through the seas. That practice began, I think, in the year 1876, but at first, its extent was small. The vessels were fitted out mostly from a port in British Columbia, and confined their enterprise to the North Pacific Ocean, not entering Bering Sea at all; and their drafts upon the seals even in the North Pacific Ocean were at first extremely small, only a few thousands each year. But the business was found to be a profitable one, and, of course, as its profit was perceived, more and more were tempted to engage in it, and a larger and larger investment of capital was made in it. More and more vessels prosecuted the fishery in the North Pacific Ocean, and in 1883, for the first time, a vessel ventured to enter Bering Sea.

The learned arbitrators will perceive that up to this time, during the whole of the Russian and the whole of the American occupation of these islands, there had been no such thing as pelagic sealing, except in the insignificant way already mentioned by the Indians. Those two nations had enjoyed the full benefit of this property, the full benefit of these herds of seals, in as complete a degree as if they had been recognized as the sole proprietors of them, and as if a title in them, not only while they were ashore and upon the breeding islands, but while they were absent upon their migrations, had been recognized in them during that whole period, or as if there had been some regulation among the nations absolutely prohibiting all pelagic sealing. Up to the period

when pelagic sealing began to be extended, those advantages were exclusively enjoyed by Russia and the United States; and at first, as I have said, this pelagic sealing did not extend into Bering Sea, but was carried on in the North Pacific Ocean, and south and east of the Aleutian chain.

Why Bering Sea was thus carefully abstained from it may perhaps be difficult at the present time altogether to say. It may be for the reason that it was farther off, more difficult to reach. It may be for the reason that the pelagic sealers did not at first suppose that they had a right to enter Bering Sea and take the seals there, for it was well known that during the whole of the Russian occupation Russia did assert for herself an exclusive right to all the products of that region of the globe; and it was also, of course, well known to all Governments, and to these pelagic sealers, that the United States had, when they acceded to the sovereignty over these islands, asserted a similar right, and made the practice of pelagic sealing, in Bering Sea at least—perhaps farther, but in Bering Sea at least—a criminal offense under their law. But from whatever cause, it was not until the year 1883 that any pelagic sealers ventured into Bering Sea. During that year, a single vessel did enter there, took a large catch, was very successful, and was not called to any account; and this successful experiment was, of course, followed during the succeeding years by many repetitions of the same enterprise.

The extent to which pelagic sealing was thus carried on in Bering Sea, its probable consequences upon the herds which made their homes upon the Pribilof Islands, was not at first appreciated either by the United States or by the lessees of the islands. There was no means by which they could easily find out how many vessels made such excursions, and they did not at first seem to suppose that their interests were particularly threatened by it. Consequently, for the first two or three years, no notice seems to have been taken of these enterprises by the Government of the United

States, although it had laws made against them. But in 1886, this practice of taking seals at sea became so largely extended that it excited apprehensions for the safety of the herd, and it was perhaps thought at that time that there was already observable in the condition of the herd some damaging, destructive consequence of that pursuit of them by sea.

The attention of the United States having been called to the practice, that Government determined to prevent it, and the first method to which it resorted was an enforcement of the laws upon her statute book which prohibited the practice, and subjected all vessels engaged in it to seizure and confiscation. Instructions were accordingly given to the cruisers of the United States to suppress the practice and to enforce those laws. The result was that in the year 1886, three British vessels and some American vessels were taken while engaged in the pursuit illegally under the laws of the United States. They were carried in and condemned." [See Fur Seal Arbitration Proceedings, Vol. XII, pp. 6–11.]

These seizures, after much diplomatic correspondence, led to the final adoption of a treaty between the United States and Great Britain, which was signed at Washington, February 29, 1892, the text of which is as follows:

The United States of America and Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, being desirous to provide for an amicable settlement of the questions which have arisen between their respective governments concerning the jurisdictional rights of the United States in the waters of Bering Sea, and concerning also the preservation of the fur seal in, or habitually resorting to, the said sea, and the rights of the citizens and subjects of either country as regards the taking of fur seal in, or habitually resorting to, the said waters, have resolved to submit to arbitration the questions involved, and to the end of concluding a convention for that purpose have appointed as their respective plenipotentiaries:

The President of the United States of America, James G. Blaine, Secretary of State of the United States; and

Her Majesty the Queen of the United Kingdom of Great Britain and Ire-

land, Sir Julian Pauncefote, G. C. M. G., K. C. B., Her Majesty's envoy extraordinary and minister plenipotentiary to the United States;

Who, after having communicated to each other their respective full powers, which were found to be in due and proper form, have agreed to and concluded the following articles:

ARTICLE I.

The questions which have arisen between the Government of the United States and the Government of Her Britannic Majesty concerning the jurisdictional rights of the United States in the waters of Bering Sea, and concerning also the preservation of the fur seal in, or habitually resorting to, the said sea, and the rights of the citizens and subjects of either country as regards the taking of fur seal in, or habitually resorting to, the said waters, shall be submitted to a tribunal of arbitration, to be composed of seven arbitrators, who shall be appointed in the following manner, that is to say: Two shall be named by the President of the United States; two shall be named by Her Britannic Majesty; His Excellency the President of the French Republic shall be jointly requested by the High Contracting Parties to name one; His Majesty the King of Italy shall be so requested to name one; and His Majesty the King of Sweden and Norway shall be so requested to name one. The seven arbitrators to be so named shall be jurists of distinguished reputation in their respective countries; and the selecting powers shall be requested to choose, if possible, jurists who are acquainted with the English language.

In case of the death, absence, or incapacity to serve of any or either of the said arbitrators, or in the event of any or either of the said arbitrators omitting or declining or ceasing to act as such, the President of the United States, or Her Britannic Majesty, or His Excellency the President of the French Republic, or His Majesty the King of Italy, or His Majesty the King of Sweden and Norway, as the case may be, shall name, or shall be requested to name forthwith another person to act as arbitrator in the place and stead of the arbitrator originally named by such head of a State.

And in the event of the refusal or omission for two months after receipt of the joint request from the High Contracting Parties of His Excellency the President of the French Republic, or His Majesty the King of Italy, or His Majesty the King of Sweden and Norway, to name an arbitrator, either to fill the original appointment or to fill a vacancy as above provided, then in such case the appointment shall be made or the vacancy shall be filled in such manner as the High Contracting Parties shall agree.

ARTICLE II.

The arbitrators shall meet at Paris within twenty days after the delivery of the counter cases mentioned in Article IV, and shall proceed impartially and carefully to examine and decide the questions that have been or shall be laid before them as herein provided on the part of the Governments of the United States and Her Britannic Majesty respectively. All questions considered by the tribunal, including the final decision, shall be determined by a majority of all the arbitrators.

Each of the High Contracting Parties shall also name one person to attend the tribunal as its agent to represent it generally in all matters connected with the arbitration.

ARTICLE III.

The printed case of each of the two parties, accompanied by the documents, the official correspondence, and other evidence on which each relies, shall be delivered in duplicate to each of the arbitrators and to the agent of the other party as soon as may be after the appointment of the members of the tribunal, but within a period not exceeding four months from the date of the exchange of the ratifications of this treaty.

ARTICLE IV.

Within three months after the delivery on both sides of the printed case, either party may, in like manner deliver in duplicate to each of the said arbitrators, and to the agent of the other party, a counter case, and additional documents, correspondence, and evidence, in reply to the case, documents, correspondence, and evidence so presented by the other party.

If, however, in consequence of the distance of the place from which the evidence to be presented is to be procured, either party shall, within thirty days after the receipt by its agent of the case of the other party, give notice to the other party that it requires additional time for the delivery of such counter case, documents, correspondence and evidence, such additional time so indicated, but not exceeding sixty days beyond the three months in this article provided, shall be allowed.

If in the case submitted to the arbitrators either party shall have specified or alluded to any report or document in its own exclusive possession, without annexing a copy, such party shall be bound, if the other party thinks proper to apply for it, to furnish that party with a copy thereof; and either party may call upon the other, through the arbitrators, to produce the originals or certified copies of any papers adduced as evidence, giving in each instance notice thereof

within thirty days after delivery of the case; and the original or copy so requested shall be delivered as soon as may be and within a period not exceeding forty days after receipt of notice.

ARTICLE V.

It shall be the duty of the agent of each party, within one month after the expiration of the time limited for the delivery of the counter case on both sides, to deliver in duplicate to each of the said arbitrators and to the agent of the other party a printed argument showing the points and referring to the evidence upon which his Government relies, and either party may also support the same before the arbitrators by oral argument of counsel; and the arbitrators may, if they desire further elucidation with regard to any point, require a written or printed statement or argument, or oral argument by counsel, upon it; but in such case the other party shall be entitled to reply either orally or in writing, as the case may be.

ARTICLE VI.

In deciding the matters submitted to the arbitrators, it is agreed that the following five points shall be submitted to them, in order that their award shall embrace a distinct decision upon each of said five points, to wit:

1. What exclusive jurisdiction in the sea now known as the Bering Sea, and what exclusive rights in the seal fisheries therein, did Russia assert and exercise prior and up to the time of the cession of Alaska to the United States?

2. How far were these claims of jurisdiction as to the seal fisheries recognized and conceded by Great Britain?

3. Was the body of water now known as the Bering Sea included in the phrase "Pacific Ocean," as used in the treaty of 1825 between Great Britain and Russia; and what rights, if any, in the Bering Sea were held and exclusively exercised by Russia after said treaty?

4. Did not all the rights of Russia as to jurisdiction, and as to the seal fisheries in Bering Sea east of the water boundary, in the treaty between the United States and Russia of the 30th March, 1867, pass unimpaired to the United States under that treaty?

5. Has the United States any right, and if so, what right of protection or property in the fur seals frequenting the islands of the United States in Bering Sea when such seals are found outside the ordinary 3-mile limit.

ARTICLE VII.

If the determination of the foregoing questions as to the exclusive jurisdiction of the United States shall leave the subject in such position that the concurrence of Great Britain is necessary to the establishment of regulations for the proper

protection and preservation of the fur seal in, or habitually resorting to, the Bering Sea, the arbitrators shall then determine what concurrent regulations outside the jurisdictional limits of the respective Governments are necessary, and over what waters such regulations should extend, and to aid them in that determination the report of a joint commission to be appointed by the respective Governments shall be laid before them, with such other evidence as either Government may submit.

The High Contracting Paties furthermore agree to cooperate in securing the adhesion of other powers to such regulations.

ARTICLE VIII.

The High Contracting Parties having found themselves unable to agree upon a reference which shall include the question of the liability of each for the injuries alleged to have been sustained by the other, or by its citizens, in connection with the claims presented and urged by it; and, being solicitous that this subordinate question should not interrupt or longer delay the submission and determination of the main questions, do agree that either may submit to the arbitrators any question of fact involved in said claim and ask for a finding thereon, the question of the liability of either Government upon the facts found to be the subject of further negotiation.

ARTICLE IX.

The High Contracting Parties having agreed to appoint two commissioners on the part of each Government to make the joint investigation and report contemplated in the preceding Article VII, and to include the terms of the said agreement in the present convention, to the end that the joint and several reports and recommendations of said commissioners may be in due form submitted to the arbitrators should the contingency therefor arise, the said agreement is accordingly herein included as follows:

Each Government shall appoint two commissioners to investigate conjointly with the commissioners of the other Government all the facts having relation to seal life in Bering Sea, and the measures necessary for its proper protection and preservation.

The four commissioners shall, so far as they may be able to agree, make a joint report to each of the two Governments, and they shall also report, either jointly or severally, to each Government on any points upon which they may be unable to agree.

These reports shall not be made public until they shall be submitted to the arbitrators, or it shall appear that the contingency of their being used by the arbitrators can not arise.

ARTICLE X.

Each Government shall pay the expenses of its members of the joint commission in the investigation referred to in the preceding article.

ARTICLE XI.

The decision of the tribunal shall, if possible, be made within three months from the close of the argument on both sides.

It shall be made in writing and dated, and shall be signed by the arbitrators who may assent to it.

The decision shall be in duplicate, one copy whereof shall be delivered to the agent of the United States for his Government, and the other copy shall be delivered to the agent of Great Britain for his Government.

ARTICLE XII.

Each Government shall pay its own agent and provide for the proper remuneration of the counsel employed by it and of the arbitrators appointed by it, and for the expense of preparing and submitting its case to the tribunal. All other expenses connected with the Arbitration shall be defrayed by the two Governments in equal moieties.

ARTICLE XIII.

The arbitrators shall keep an accurate record of their proceedings and may appoint and employ the necessary officers to assist them.

ARTICLE XIV.

The High Contracting Parties engage to consider the result of the proceedings of the tribunal of arbitration as a full, perfect, and final settlement of all the questions referred to the arbitrators.

ARTICLE XV.

The present treaty shall be duly ratified by the President of the United States of America, by and with the advice and consent of the Senate thereof, and by Her Britannic Majesty; and the ratification shall be exchanged either at Washington or at London within six months from the date hereof, or earlier if possible.

In faith whereof, we, the respective plenipotentiaries, have signed this treaty and have hereunto affixed our seals.

Done in duplicate at Washington the 29th day of February, 1892.

JAMES G. BLAINE. [SEAL.]
JULIAN PAUNCEFOTE. [SEAL.]

The arbitrators under this treaty, Hon. John M. Harlan and Hon. John T. Morgan, representing the United States; Baron Alphonse de Courcel, arbitrator named by France; the Right Hon. Lord Hannen and Sir John Thompson, representing Great Britain; Marquis E. Visconti Venosta, arbitrator named by Italy, and Mr. Gregers Gram, arbitrator named by Sweden and Norway, met at Paris on February 23, 1893, and were in session until August 15, 1893. The following award was the result of their labors:

AWARD OF THE TRIBUNAL OF ARBITRATION CONSTITUTED UNDER THE TREATY CONCLUDED AT WASHINGTON, THE 29TH OF FEBRUARY, 1892, BETWEEN THE UNITED STATES OF AMERICA AND HER MAJESTY THE QUEEN OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

Whereas by a treaty between the United States of America and Great Britain, signed at Washington, February 29, 1892, the ratifications of which by the Governments of the two countries were exchanged at London on May the 7th, 1892, it was, amongst other things, agreed and concluded that the questions which had arisen between the Government of the United States of America and the Government of Her Britannic Majesty concerning the jurisdictional rights of the United States in the waters of Bering's Sea, and concerning also the preservation of the fur-seal in or habitually resorting to the said sea, and the rights of the citizens and subjects of either country as regards the taking of fur-seals in or habitually resorting to the said waters, should be submitted to a tribunal of arbitration to be composed of seven arbitrators, who should be appointed in the following manner, that is to say: two should be named by the President of the United States; two should be named by Her Britannic Majesty; His Excellency the President of the French Republic should be jointly requested by the High Contracting Parties to name one; His Majesty the King of Italy should be so requested to name one; His Majesty the King of Sweden and Norway should be so requested to name one; the seven arbritrators to be so named should be jurists of distinguished reputation in their respective countries, and the selecting powers should be requested to choose, if possible, jurists who are acquainted with the English language;

And whereas it was further agreed by Article II of the said treaty that the arbitrators should meet at Paris within twenty days after the delivery of the counter cases mentioned in Article IV, and should proceed impartially and carefully to examine and decide the questions which had been or should be laid before

them as in the said treaty provided on the part of the Governments of the United States and of Her Britannic Majesty respectively, and that all questions considered by the tribunal, including the final decision, should be determined by a majority of all the arbitrators;

And whereas by Article VI of the said treaty, it was further provided as follows: "In deciding the matters submitted to the said arbitrators, it is agreed that the following five points shall be submitted to them in order that their award shall embrace a distinct decision upon each of said five points, to wit:

"1. What exclusive jurisdiction in the sea now known as the Bering's Sea, and what exclusive rights in the seal fisheries therein, did Russia assert and exercise prior and up to the time of the cession of Alaska to the United States?

"2. How far were these claims of jurisdiction as to the seal fisheries recognized and conceded by Great Britain?

"3. Was the body of water now known as the Bering's Sea included in the phrase *Pacific Ocean*, as used in the treaty of 1825 between Great Britain and Russia; and what rights, if any, in the Bering's Sea were held and exclusively exercised by Russia after said treaty?

"4. Did not all the rights of Russia as to jurisdiction and as to the seal fisheries in Bering's Sea east of the water boundary, in the treaty between the United States and Russia of the 30th of March, 1867, pass unimpaired to the United States under that treaty?

"5. Has the United States any right, and if so, what right, of protection or property in the fur-seals frequenting the islands of the United States in Bering Sea when such seals are found outside the ordinary three-mile limit?"

And whereas by Article VII of the said treaty it was further agreed, as follows

"If the determination of the foregoing questions as to the exclusive jurisdiction of the United States shall leave the subject in such position that the concurrence of Great Britain is necessary to the establishment of regulations for the proper protection and preservation of the fur seal in, or habitually resorting to, the Bering Sea, the arbitrators shall then determine what concurrent regulations, outside the jurisdictional limits of the respective Governments, are necessary, and over what waters such regulations should extend;

"The High Contracting Parties furthermore agree to cooperate in securing the adhesion of other powers to such regulations;"

And whereas, by Article VIII of the said treaty, after reciting that the High Contracting parties had found themselves unable to agree upon a reference which should include the question of the liability of each for the injuries alleged to have been sustained by the other, or by its citizens, in connection with the claims presented and urged by it, and that "they were solicitous that this subordinate

question should not interrupt or longer delay the submission and determination of the main questions", the High Contracting Parties agreed that "either of them might submit to the arbitrators any question of fact involved in said claims and ask for a finding thereon, the question of the liability of either Government upon the facts found, to be the subject of further negociation;"

And whereas, the President of the United States of America named the Honourable John M. Harlan, Justice of the Supreme Court of the United States, and the Honourable John T. Morgan, Senator of the United States, to be two of the said arbitrators, and Her Britannic Majesty named the Right Honourable Lord Hannen and the Honourable Sir John Thompson, Minister of Justice and Attorney General for Canada, to be two of the said arbitrators, and His Excellency the President of the French Republic named the Baron de Courcel, Senator, Ambassador of France, to be one of the said arbitrators, and His Majesty the King of Italy named the Marquis Emilio Visconti Venosta, former Minister of Foreign Affairs and Senator of the Kingdom of Italy, to be one of the said arbitrators, and His Majesty the King of Sweden and Norway named Mr. Gregers Gram, Minister of State, to be one of the said arbitrators;

And whereas we, the said arbitrators, so named and appointed, having taken upon ourselves the burden of the said arbitration, and having duly met at Paris, proceeded impartially and carefully to examine and decide all the questions submitted to us, the said arbitrators, under the said treaty, or laid before us as provided in the said treaty on the part of the Governments of Her Britannic Majesty and the United States, respectively;

Now we, the said arbitrators, having impartially and carefully examined the said questions, do in like manner by this our award decide and determine the said questions in manner following; that is to say, we decide and determine as to the five points mentioned in Article VI as to which our award is to embrace a distinct decision upon each of them:

As to the first of the said five points, we, the said Baron de Courcel, Mr. Justice Harlan, Lord Hannen, Sir John Thompson, Marquis Visconti Venosta, and Mr. Gregers Gram, being a majority of the said arbitrators, do decide and determine as follows:

By the ukase of 1821, Russia claimed jurisdiction in the sea now known as the Bering's Sea, to the extent of 100 Italian miles from the coasts and islands belonging to her, but in the course of the negociations which led to the conclusion of the treaties of 1824 with the United States and of 1825 with Great Britain, Russia admitted that her jurisdiction in the said sea should be restricted to the reach of cannon shot from shore, and it appears that, from that time up

to the time of cession of Alaska to the United States, Russia never asserted in fact or exercised any exclusive jurisdiction in Bering's Sea or any exclusive rights in the seal fisheries therein beyond the ordinary limit of territorial waters.

As to the second of the said five points, we, the said Baron de Courcel, Mr. Justice Harlan, Lord Hannen, Sir John Thompson, Marquis Visconti Venosta, and Mr. Gregers Gram, being a majority of the said arbitrators, do decide and determine that Great Britain did not recognize or concede any claim, upon the part of Russia, to exclusive jurisdiction as to the seal fisheries in Bering Sea, outside of ordinary territorial waters.

As to the third of the said five points, as to so much thereof as requires us to decide whether the body of water now known as the Bering Sea was included in the phrase "Pacific Ocean" as used in the treaty of 1825 between Great Britain and Russia, we, the said arbitrators, do unanimously decide and determine that the body of water now known as the Bering Sea was included in the phrase "Pacific Ocean" as used in the said treaty.

And as to so much of the said third point as requires us to decide what rights, if any, in the Bering Sea were held and exclusively exercised by Russia after the said treaty of 1825, we, the said Baron de Courcel, Mr. Justice Harlan, Lord Hannen, Sir John Thompson, Marquis Visconti Venosta, and Mr. Gregers Gram, being a majority of the said arbitrators, do decide and determine that no exclusive rights of jurisdiction in Bering Sea, and no exclusive rights as to the seal fisheries therein, were held or exercised by Russia outside of ordinary territorial waters after the treaty of 1825.

As to the fourth of the said five points, we, the said arbitrators, do unanimously decide and determine that all the rights of Russia as to jurisdiction and as to the seal fisheries in Bering Sea, east of the water boundary, in the treaty between the United States and Russia of the 30th March, 1867, did pass unimpaired to the United States under the said treaty.

As to the fifth of the said five points, we, the said Baron de Courcel, Lord Hannen, Sir John Thompson, Marquis Visconti Venosta, and M. Gregers Gram being a majority of the said arbitrators, do decide and determine that the United States has not any right of protection or property in the fur seals frequenting the islands of the United States in Bering Sea, when such seals are found outside the ordinary three-mile limit.

And whereas the aforesaid determination of the foregoing questions as to the exclusive jurisdiction of the United States mentioned in Article VI leaves the subject in such a position that the concurrence of Great Britain is necessary to the establishment of regulations for the proper protection and preservation of the fur seal in or habitually resorting to the Bering Sea, the tribunal having

decided by a majority as to each article of the following regulations, we, the said Baron De Courcel, Lord Hannen, Marquis Visconti Venosta, and Mr. Gregers Gram, assenting to the whole of the nine articles of the following regulations, and being a majority of the said arbitrators, do decide and determine in the mode provided by the treaty, that the following concurrent regulations outside the jurisdictional limits of the respective Governments are necessary and that they should extend over the waters hereinafter mentioned, that is to say:

ARTICLE I.

The Governments of the United States and of Great Britain shall forbid their citizens and subjects, respectively, to kill, capture, or pursue at any time and in any manner whatever, the animals commonly called fur seals, within a zone of sixty miles around the Pribilof Islands, inclusive of the territorial waters.

The miles mentioned in the preceding paragraph are geographical miles, of sixty to a degree of latitude.

ARTICLE 2.

The two Governments shall forbid their citizens and subjects, respectively, to kill, capture, or pursue, in any manner whatever, during the season extending each year from the 1st of May to the 31st of July, both inclusive, the fur seals on the high sea, in the part of the Pacific Ocean, inclusive of the Bering Sea, which is situated to the north of the thirty-fifth degree of north latitude and eastward of the one hundred and eightieth degree of longitude from Greenwich till it strikes the water boundary described in article 1 of the treaty of 1867 between the United States and Russia, and following that line up to Bering Straits.

ARTICLE 3.

During the period of time and in the waters in which the fur-seal fishing is allowed, only sailing vessels shall be permitted to carry on or take part in fur-seal fishing operations. They will, however, be at liberty to avail themselves of the use of such canoes or undecked boats, propelled by paddles, oars, or sails, as are in common use as fishing boats.

ARTICLE 4.

Each sailing vessel authorised to fish for fur seals must be provided with a special license issued for that purpose by its Government and shall be required to carry a distinguishing flag to be prescribed by its Government.

ARTICLE 5.

The masters of the vessels engaged in fur-seal fishing shall enter accurately in their official log book the date and place of each fur-seal fishing operation, and also the number and sex of the seals captured upon each day. These entries shall be communicated by each of the two Governments to the other at the end of each fishing season.

ARTICLE 6.

The use of nets, fire arms, and explosives shall be forbidden in the fur-seal fishing. This restriction shall not apply to shotguns when such fishing takes place outside of Bering Sea, during the season when it may be lawfully carried on.

ARTICLE 7.

The two Governments shall take measures to control the fitness of the men authorized to engage in fur-seal fishing; these men shall have been proved fit to handle with sufficient skill the weapons by means of which this fishing may be carried on.

ARTICLE 8.

The regulations contained in the preceding articles shall not apply to Indians dwelling on the coasts of the territory of the United States or of Great Britain and carrying on fur-seal fishing in canoes or undecked boats not transported by or used in connection with other vessels and propelled wholly by paddles, oars, or sails and manned by not more than five persons each in the way hitherto practised by the Indians, provided such Indians are not in the employment of other persons, and provided that, when so hunting in canoes or undecked boats, they shall not hunt fur seals outside of territorial waters under contract for the delivery of the skins to any person.

This exemption shall not be construed to affect the municipal law of either county, nor shall it extend to the waters of Bering Sea or the waters of the Aleutian Passes.

Nothing herein contained is intended to interfere with the employment of Indians as hunters or otherwise in connection with fur-sealing vessels as heretofore.

ARTICLE 9.

The concurrent regulations hereby determined with a view to the protection and preservation of the fur seals shall remain in force until they have been, in whole or in part, abolished or modified by common agreement between the Governments of the United States and of Great Britain.

The said concurrent regulations shall be submitted every five years to a new examination, so as to enable both interested Governments to consider whether, in the light of past experience, there is occasion for any modification thereof.

And whereas the Government of Her Britannic Majesty did submit to the Tribunal of Arbitration by Article VIII of the said treaty certain questions of fact involved in the claims referred to in the said Article VIII, and did also submit to us, the said tribunal, a statement of the said facts, as follows, that is to say:

"*Findings of fact proposed by the Agent of Great Britain and agreed to as proved by the Agent for the United States, and submitted to the Tribunal of Arbitration for its consideration.*

"1. That the several searches and seizures, whether of ships or goods, and the several arrests of masters and crews, respectively mentioned in the Schedule to the British Case, pages 1 to 60, inclusive, were made by the authority of the United States Government. The questions as to the value of the said vessels or their contents, or either of them, and the question as to whether the vessels mentioned in the Schedule to the British Case, or any of them, were wholly or in part the actual property of citizens of the United States, have been withdrawn from and have not been considered by the tribunal, it being understood that it is open to the United States to raise these questions, or any of them, if they think fit, in any future negotiations as to the liability of the United States Government to pay the amounts mentioned in the Schedule to the British Case;

"2. That the seizures aforesaid, with the exception of the "Pathfinder" seized at Neah Bay, were made in Bering Sea at the distances from shore mentioned in the Schedule annexed hereto marked C;

"3. That the said several searches and seizures of vessels were made by public armed vessels of the United States, the commanders of which had, at the several times when they were made, from the Executive Department of the Government of the United States, instructions, a copy of one of which is annexed hereto, marked A, and that the others were, in all substantial respects, the same; that in all the instances in which proceedings were had in the district courts of the United States resulting in condemnation, such proceedings were begun by the filing of libels, a copy of one of which is annexed hereto, marked B, and that the libels in the other proceedings were in all substantial respects the same; that the alleged acts or offences for which said several searches and seizures were made were in each case done or committed in Bering Sea at the distances from shore aforesaid; and that in each case in which sentence of condemnation was passed, except in those cases when the vessels were released after

condemnation, the seizure was adopted by the Government of the United States, and in those cases in which the vessels were released the seizure was made by the authority of the United States; that the said fines and imprisonments were for alleged breaches of the municipal laws of the United States, which alleged breaches were wholly committed in Bering Sea at the distances from the shore aforesaid;

"4. That the several orders mentioned in the Schedule annexed hereto and marked C, warning vessels to leave or not to enter Bering Sea, were made by public armed vessels of the United States the commanders of which had, at the several times when they were given, like instructions as mentioned in finding 3, and that the vessels so warned were engaged in sealing or prosecuting voyages for that purpose, and that such action was adopted by the Government of the United States;

"5. That the district courts of the United States in which any proceedings were had or taken for the purpose of condemning any vessel seized as mentioned in the Schedule to the Case of Great Britain, pages 1 to 60, inclusive, had all the jurisdiction and powers of courts of admiralty, including the prize jurisdiction, but that in each case the sentence pronounced by the court was based upon the grounds set forth in the libel.

"ANNEX A.

"TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
"*Washington, April 21, 1886.*

"SIR: Referring to Department letter of this date, directing you to proceed with the revenue steamer *Bear*, under your command, to the seal islands, etc., you are hereby clothed with full power to enforce the law contained in the provisions of section 1956 of the United States Revised Statutes, and directed to seize all vessels and arrest and deliver to the proper authorities any or all persons whom you may detect violating the law referred to, after due notice shall have been given.

"You will also seize any liquors or firearms attempted to be introduced into the country without proper permit, under the provisions of section 1955 of the Revised Statutes, and the proclamation of the President dated 4th February, 1870.

"Respectfully, yours,

"Signed: C. S. FAIRCHILD,
"*Acting Secretary.*

"Captain M. A. HEALY,
Commanding revenue steamer Bear, San Francisco, California.

"ANNEX B.

"*In the district court of the United States for the District of Alaska.*

"August special term, 1886.

"To the Honourable LAFAYETTE DAWSON,

Judge of said District Court:

"The libel of information of M. D. Ball, attorney for the United States for the District of Alaska, who prosecutes on behalf of said United States, and being present here in court in his proper person, in the name and on behalf of the said United States, against the schooner *Thornton*, her tackle, apparel, boats, cargo, and furniture, and against all persons intervening for their interest therein, in a cause of forfeiture, alleges and informs as follows:

"That Charles A. Abbey, an officer in the Revenue-Marine Service of the United States, and on special duty in the waters of the district of Alaska, heretofore, to wit, on the 1st day of August, 1886, within the limits of Alaska Territory, and in the waters thereof, and within the civil and judicial district of Alaska, to wit, within the waters of that portion of Bering Sea belonging to the said district, on waters navigable from the sea by vessels of 10 or more tons burden, seized the ship or vessel commonly called a schooner, the *Thornton*, her tackle, apparel, boats, cargo, and furniture, being the property of some person or persons to the said attorney unknown, as forfeited to the United States, for the following causes:

"That the said vessel or schooner was found engaged in killing fur seal within the limits of Alaska Territory, and in the waters thereof, in violation of section 1956 of the Revised Statutes of the United States.

"And the said attorney saith that all and singular the premises are and were true, and within the admiralty and maritime jurisdiction of this court, and that by reason thereof, and by force of the statutes of the United States in such cases made and provided, the aforementioned and described schooner or vessel, being a vessel of over 20 tons burden, her tackle, apparel, boats, cargo, and furniture became and are forfeited to the use of the said United States, and that said schooner is now within the district aforesaid.

"Wherefore the said attorney prays the usual process and monition of this honourable court issue in this behalf, and that all persons interested in the beforementioned and described schooner or vessel may be cited in general and special to answer the premises, and all due proceedings being had, that the said schooner or vessel, her tackle, apparel, boats, cargo, and furniture may, for the cause aforesaid, and others appearing, be condemned by the definite sentence and

decree of this honourable court, as forfeited to the use of the said United States, according to the form of the statute of the said United States in such cases made and provided.

"Signed: M. D. BALL,

"*United States District Attorney for the District of Alaska.*

ANNEX C.

"The following table shows the names of the British sealing vessels seized or warned by United States revenue cruizers 1886–1890, and the approximate distance from land when seized. The distances assigned in the cases of the *Carolena, Thornton,* and *Onward* are on the authority of U. S. Naval Commander Abbey (see Fiftieth Congress, second session, Senate Executive Document No. 106, pp. 20, 30, 40). The distances assigned in the cases of the *Anna Beck, W. P. Sayward, Dolphin,* and *Grace* are on the authority of Captain Shepard, U. S. R. M. (Blue Book, United States, No. 2, 1890, pp. 80–82; see Appendix, Vol. III)."

Name of vessel.	Date of seizure.	Approximate distance from land when seized.	United States vessel making seizure.
Carolena	Aug. 1, 1886	75 miles	Corwin.
Thornton	do	70 miles	Corwin.
Onward	Aug. 2, 1886	115 miles	Corwin.
Favourite	do	Warned by Corwin in about same position as Onward.	
Anna Beck	July 2, 1887	66 miles	Rush.
W. P. Sayward	July 9, 1887	59 miles	Rush.
Dolphin	July 12, 1887	40 miles	Rush.
Grace	July 17, 1887	96 miles	Rush.
Alfred Adams	Aug. 10, 1887	62 miles	Rush.
Ada	Aug. 25, 1887	15 miles	Bear.
Triumph	Aug. 4, 1887	Warned by Rush not to enter Bering Sea.	
Juanita	July 31, 1889	66 miles	Rush.
Pathfinder	July 29, 1889	50 miles	Rush.
Triumph	July 11, 1889	Ordered out of Bering Sea by Rush. (?) As to position when warned.	
Black Diamond	do	35 miles	Rush.
Lily	Aug. 6, 1889	66 miles	Rush.
Ariel	July 30, 1889	Ordered out of Bering Sea by Rush.	
Kate	Aug. 13, 1889	do	
Minnie	July 15, 1889	65 miles	Rush.
Pathfinder	Mar. 27, 1890	Seized in Neah Bay *a*	Corwin.

a Neah Bay is in the State of Washington, and the *Pathfinder* was seized there on charges made against her in the Bering Sea in the previous year. She was released two days later.

And whereas the Government of Her Britannic Majesty did ask the said arbitrators to find the said facts as set forth in the said statement, and whereas the agent and counsel for the United States Government thereupon in our presence informed us that the said statement of facts was sustained by the evidence, and that they had agreed with the agent and counsel for Her Britannic Majesty that we, the arbitrators, if we should think fit so to do, might find the said statement of facts to be true.

Now, we, the said arbitrators, do unanimously find the facts as set forth in the said statement to be true.

And whereas each and every question which has been considered by the tribunal has been determined by a majority of all the arbitrators;

Now, we, Baron de Courcel, Lord Hannen, Mr. Justice Harlan, Sir John Thompson, Senator Morgan, the Marquis Visconti Venosta, and Mr. Gregers Gram, the respective minorities not withdrawing their votes, do declare this to be the final decision and award in writing of this tribunal in accordance with the treaty.

Made in duplicate at Paris and signed by us the fifteenth day of August, in the year 1893.

And we do certify this English version thereof to be true and accurate.

ALPH. DE COURCEL.
JOHN M. HARLAN.
JOHN T. MORGAN.
HANNEN.
JNO. S. D. THOMPSON.
VISCONTI VENOSTA.
G. GRAM.

Since 1893, efforts have been made by the United States for the further prevention of pelagic sealing and the protection of the fur-seal fisheries. With this end in view, Hon. John W. Foster was sent as agent to England to secure the adoption of a *modus vivendi* prohibiting all sealing until a final disposition of the question can be had and a treaty can be entered into establishing further regulations for the government of the fisheries. At this writing, no official data of the results of this mission can be had, the agent not having as yet submitted his report.

As a further result of the arbitration of 1893, a convention was concluded between the United States and Great Britain February

8, 1896, for the settlement of the claims of British subjects, growing out of the seizures of British vessels in Bering Sea from 1886 to 1892, which provided for the appointment of two commissioners, and if necessary, an umpire. This commission was to sit at Victoria, British Columbia, and San Francisco, Cal. Sessions have been held in both places, but as yet, the results of their labors have not been made public.

SALMON, COD, HERRING, ETC.

In his report for the fiscal year 1891, Governor Knapp, of Alaska, says:

Among the resources of Alaska are the products of the sea. The native population have always obtained much of their food supply from the waters, and in a less degree their clothing and many of the conveniences of life. Their winter supply of food is still largely made up of dried fish, seaweed, and fish eggs, while fresh fish are eaten at all seasons of the year, not only by the natives, but by all classes of people, and the abundance of this product insures the most thriftless with a ready means of subsistence.

Salmon fishing is by far the largest and most important industry. Thirty-seven canneries and seven or more salting establishments are reported as in operation in 1890. The aggregate pack of the canneries was 688,332 cases of 4 dozen 1-pound cans, falling a little short of the pack of 1889. The amount of salted salmon was about 7,300 barrels, a little more than the year previous. These salmon fisheries represent a capital of about $4,250,000, and they give employment to about 2,000 white laborers, 2,500 Chinamen, and 1,000 natives, and require in their business, for transportation and their work, about 100 steam vessels and 500 fishing boats. The white and Chinese laborers do not usually remain in the Territory after the season is over. Below is given a comparative statement of the canned product since 1883, viz:

Year.	Total pack.	Year.	Total pack.
	Cases.		*Cases.*
1883	36,000	1888	439,293
1884	45,000	1889	702,993
1885	74,800	1890	688,332
1886	120,700		
1887	190,000	Total	2,297,118

Allowing the average value of salmon during these years to have been $4.50 per case, we have a total valuation of $10,337,031 for this one export since the industry took this form in Alaska. Add to this sum the value of the salted salmon exported, and the amount used in the Territory, if that were possible, and the grand total would surprise those who have not given the subject a study.

The report for 1895 of Mr. Joseph Murray, special agent to inspect the fisheries in Alaska, says that during the year, nearly 7,000,000 cases, of 48 pounds to the case, were packed, and the total value of the salmon canned was over $2,000,000.

The species of salmon found in Alaska in quantities sufficient to constitute an economic resource are the red, the king, the silver, the humpback, the dog, the steelhead, and the Dolly Varden varieties. By an act of Congress, approved March 2, 1889, the erection of dams, barricades, or other obstructions in Alaska streams to prevent the ascent of salmon was prohibited, under penalty of not less than $250 per day. A letter from Secretary Carlisle, dated February 19, 1896, called the attention of Congress to the fact that the law failed to meet the exigencies of the situation. On June 9, 1896, the following act was approved:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act approved March second, eighteen hundred and eighty-nine, and entitled "An Act to provide for the protection of the salmon fisheries of Alaska," is hereby amended and reenacted as follows:

"That the erection of dams, barricades, fish wheels, fences, or any such fixed or stationary obstructions in any part of the rivers or streams of Alaska, or to fish for or catch salmon or salmon trout in any manner or by any means with the purpose or result of preventing or impeding the ascent of salmon to their spawning ground, is declared to be unlawful, and the Secretary of the Treasury is hereby authorized and directed to remove such obstructions and to establish and enforce such regulations and surveillance as may be necessary to insure that this prohibition and all other provisions of law relating to the salmon fisheries of Alaska are strictly complied with.

"SEC. 2. That it shall be unlawful to fish, catch, or kill any salmon of any variety, except with rod or spear, above the tide waters of any of the creeks or rivers of less than five hundred feet width in the Territory of Alaska, except only for purposes of propagation, or to lay or set any drift net, set net, trap,

pound net, or seine for any purpose across the tide waters of any river or stream for a distance of more than one-third of the width of such river, stream, or channel, or lay or set any seine or net within one hundred yards of any other net or seine which is being laid or set in said stream or channel, or to take, kill, or fish for salmon in any manner or by any means in any of the waters of the Territory of Alaska, either in the streams or tide waters, except Cook Inlet, Prince William Sound, Bering Sea, and the waters tributary thereto, from midnight on Friday of each week until six o'clock antemeridian of the Sunday following; or to fish for or catch or kill in any manner or by any appliances, except by rod or spear, any salmon in any stream of less than one hundred yards in width in the said Territory of Alaska between the hours of six o'clock in the evening and six o'clock in the morning of the following day of each and every day of the week.

"SEC. 3. That the Secretary of the Treasury may, at his discretion, set aside any streams as spawning grounds, in which no fishing will be permitted; and when, in his judgment, the results of fishing operations on any stream indicate that the number of salmon taken is larger than the capacity of the stream to produce, he is authorized to establish weekly close seasons, to limit the duration of the fishing season, or to prohibit fishing entirely for one year or more, so as to permit salmon to increase: *Provided, however*, That such power shall be exercised only after all persons interested shall have been given a hearing, of which hearing due notice must be given by publication: *And provided further*, That it shall have been ascertained that the persons engaged in catching salmon do not maintain fish hatcheries of sufficient magnitude to keep such streams fully stocked.

"SEC. 4. That to enforce the provisions of law herein, and such regulations as the Secretary of the Treasury may establish in pursuance thereof, he is authorized and directed to appoint one inspector of fisheries, at a salary of one thousand eight hundred dollars per annum, and two assistant inspectors, at a salary of one thousand six hundred dollars each per annum, and he will annually submit to Congress estimates to cover the salaries and actual traveling expenses of the officers hereby authorized and for such other expenditures as may be necessary to carry out the provisions of the law herein.

"SEC. 5. That any person violating the provisions of this Act or the regulations established in pursuance thereof shall, upon conviction thereof, be punished by a fine not exceeding one thousand dollars or imprisonment at hard labor for a term of ninety days, or both such fine and imprisonment, at the discretion of the court; and, further, in case of the violation of any of the provisions of section one of this Act and conviction thereof a further fine of two hundred and fifty dollars per diem will be imposed for each day that the obstruction or obstructions therein are maintained."

The report of the commission created by this law was made in November, 1896. They found that many of the smaller streams which formerly produced red salmon had been reduced to such a condition as to render their use unprofitable. Under the new law, the inspection would be more thorough, and probably more effective. The report said that the pack for 1896 exceeded that for 1895, amounting to 965,450 cases and 9,314 barrels. The number of persons employed was estimated at 5,600, and about $130,000 had been paid in wages by the packing companies. There are two hatcheries, one at Karluk, where 5,500,000 eggs have been secured, and the other at Etholine Island, with a product of over 2,000,000 eggs.

WHALES.

"The whaling business," says Mr. Lyman E. Knapp, Governor of Alaska, in his report for 1892, "in which forty-eight vessels are engaged, resulted in a catch for 1891 of 12,228 barrels of oil, 186,250 pounds of bone, and 1,000 pounds of ivory. The total value was $1,218,293. Below is a comparative statement of the amount of oil, bone, and ivory taken during the last eighteen years:

Year.	Oil.	Bone.	Ivory.
	Barrels.	*Pounds.*	*Pounds.*
1891	12, 228	186, 250	1, 000
1890	14, 890	231, 232	4, 150
1889	12, 834	231, 981	1, 506
1888	15, 774	303, 587	1, 550
1887	31, 714	564, 802	875
1886	37, 260	304, 530	2, 850
1885	24, 844	451, 038	6, 564
1884	20, 373	295, 700	5, 421
1883	12, 300	160, 200	23, 100
1882	21, 100	316, 600	17, 800
1881	21, 800	354, 500	15, 400
1880	23, 200	339, 000	15, 300
1879	17, 400	127, 000	32, 900
1878	9, 000	73, 300	30, 000
1877	13, 900	139, 600	74, 000
1876	2, 800	8, 800	7, 000
1875	16, 300	157, 000	25, 400
1874	10, 000	86, 000	7, 000
Total, 18 years	318, 917	4, 931, 950	272, 410

CODFISH.

The next important fishing industry in Alaska is the codfish business, carried on by two San Francisco firms at the Shumagin Islands, and in the Bering Sea. The catch of 1890 amounted to a total of 1,138,000 fish, of the value of $569,000. Since the beginning of the codfishing business in this Territory in 1865, the total number of fish taken is 25,723,300, of the value of $12,861,650. The first four years, the business did not come near to its present proportions.

A hasty survey has given an idea of the extent of the banks, but there is much yet to be done to properly define their limits and determine their character. Portlock Bank, extending northeasterly from Kadiak, has an immense area; Shumagin Bank, south of the Shumagin group of islands, has an area of about 4,400 square miles; Albatross Bank, off the southeastern side of Kadiak, has an area of 2,900 square miles; Slime Bank, north of Unimak Island, in Bering Sea, covers an area of 1,445 square miles, embracing depths from 20 to 50 fathoms; Baird Bank stretches along the north coast of Alaska Peninsula 230 miles, with an average width of 40 miles, covering an area of 9,200 square miles. The depths range from 15 to 50 fathoms, with a bottom of fine gray sand.

HERRING.

The business of the Alaska Oil and Guano Company, at Killisnoo, Carl Spuhn, president and manager, gives employment to 45 white men, 50 Indians, and a few Chinamen. Their principal business is fishing and the manufacture of oil and fish fertilizer, though they also have a trading post. Their capital stock is $75,000. They have a fishing fleet of 3 steamers, 4 scows, and 2 small boats. The product of their factory in 1891 was larger than in 1890, being 300,000 gallons of oil instead of 157,000 reported the previous year. They also put up 700 barrels of salt salmon and manufactured 800 tons of guano. The value of the product was not less than $114,000. The oil is worth about 30 cents per gallon and the guano about $30 per ton.

The fish used for the manufacture of oil is the herring, which is very abundant, very rich in oil, and finely flavored. It is much used as a food-fish and also as bait in taking halibut and other large fish. It is caught by the natives for their own use with a stick, toward the end of which are inserted several sharpened spikes. They dip the stick in the water, catch one or more herring, and with one motion land the fish in the canoe, and thrust the stick in the water again. In this way, they take immense quantities in a short time. These fish appear in the still waters of bays and inlets by the million, at different places, and at different seasons of the year, from August to February.

OTHER FISH.

Halibut abounds throughout central, southern, and western Alaska, and can be taken at any time during the year. They vary in size from 15 to 250 pounds each; those weighing from 50 to 75 pounds being preferred. It is not uncommon, says Governor Knapp, of Alaska, for Sitka Indians to visit Silver Bay or the vicinity of Mount Edgecombe and return the following day with nearly a ton of these fish. Whitefish, losh, and graylings are found in large quantities in the Yukon, and afford more food for the natives than the salmon. Black bass are abundant in southeastern Alaska, and trout and pike inhabit almost all the rivers.

The following tables, showing the extent of the fisheries of the Territory, are taken from the report of the United States Commissioner of Fish and Fisheries, for 1893:

	Value.
Vessels and outfit	$494,400
Boats	63,575
Apparatus:	
Seines	27,025
Gill nets	28,750
Pound nets	13,200
Lines	4,050
Guns	500
Shore property	720,650
Cash capital	1,257,500
Total	2,609,650

IX

Mineral Resources—The Klondike Gold Region.

Gold, silver, copper, lead, and iron are found in Alaska. Mr. Wilson says (Guide to the Yukon Gold Fields) that ever since the Territory was discovered, the Indians have shown much native copper, and mountains of the ore are said to exist in the Copper River region. This section is so little known, however, that much time must elapse before it will become accessible. Large beds of iron and coal are known to exist in many parts of Alaska, especially in the Yukon.

Prof. J. Edward Spurr, of the United States Geological Survey, says that all gold in Alaska is alloyed with a small amount of silver; and pure native silver is frequently found. The production of silver in 1896 was valued at $45,798. There was a good yield of platinum in the Yukon district.

Governor Knapp of Alaska, in his report for 1892, says that mining districts had been organized in the vicinity of Sitka, on Douglas Island, on Cook Inlet (where $120,000 worth of gold was produced in 1896), on Portage Bay, on Kadiak Island, and in the Yukon Valley. The Treadwell Mining Company, on Douglas Island, has a very large quartz mill with 240 stamps. The vein is 400 feet in width, carrying free gold and auriferous pyrites, and outcrops on a steep hillside. The ore is of such very low grade that were it not for the peculiarly advantageous situation of the mine, which reduces cost to a minimum, it could hardly be worked at a profit. The report of Governor Sheakley for 1894 says that

during the year 240,000 tons of ore were treated, yielding $768,000, or $3.20 per ton. The quantity of ore, he adds, appears to be inexhaustible. The cost of mining and milling was $1.35 per ton; net profit $444,000. A Mexican mine on the adjoining claim runs 60 stamps with about the same results.

In a report made by Professor Spurr to the United States Geological Survey, 1897, the statement is made that the first discoveries in the Yukon district were made in 1885, on Stewart River, Cassiar Bar, and Lewis River. In the following year, gold was found on Forty Mile Creek, and its tributaries, Glacier Creek, Davis Creek, Poker Creek, etc., were prospected with good results for several years. Miller Creek (on British territory) was opened for mining in 1892. Birch Creek, with its various branches, was discovered in 1893, and Circle City was founded. In 1890, the Director of the United States Mint estimated the production of the Yukon placers as $50,000; in 1891, this amount doubled; in 1893, the product of the Alaskan creeks was given as $198,000; in 1894 it reached $409,000; and in 1895, $709,000 was the amount estimated for the Yukon district, and $69,689 for outside creeks. In this year, Eagle Creek, a tributary of Birch Creek, was discovered. The condition of the Forty Mile district in the summer of 1896 was not as encouraging as formerly, owing to the six weeks' drought, which prevented the water from running the sluices, and caused enforced idleness. The Birch Creek region, on the other hand, was flourishing. At this time, discoveries were made on the Klondike River (about 20 miles from Forty Mile Creek). Placers on Hunker Creek, Indian Creek, and Bonanza Creek, the principal branch of the Klondike, gave good returns. On Bonanza Creek, $1,000 was taken out in August and September, 1896, and 400 claims were located up to January, 1897. Gulches and creeks showing good prospects are spread over 700 square miles. The mining population in the Yukon region was estimated, in 1896, at about 1,700; and the gold production for

that year, including United States and British territory, is estimated at $1,400,000.

Professor Spurr says:

The Yukon districts lie in a broad belt of gold-producing rocks, having a considerable width and extending in a general east and west direction for several hundred miles. Throughout this belt, occur quartz veins which carry gold, but so far as yet found out, the ore is of low grade, and a large proportion of the veins have been so broken by movements in the rocks that they can not be followed. For this reason, the mines in the bed rock can not be worked, except on a large scale with improved machinery, and even such operations are impossible until the general conditions of the country in reference to transportation and supplies are improved.

Through the gold-bearing rocks, the streams have cut deep gullies and canyons, and in their beds the gold which was contained in the rocks which have been worn away is concentrated, so that from a large amount of very low-grade rock there may be formed in places a gravel sufficiently rich in gold to repay washing. All the mining which is done in this country, therefore, consists in the washing out of these gravels.

In each gulch, prospectors are at liberty to stake out claims not already taken, the size of the claims being determined by vote of all the miners in each gulch, according to the richness of the gravel. The usual length of a claim is about 500 feet along the stream and the total width of the gulch bed, which is ordinarily narrow. When a prospector has thus staked out his claim, it is recorded by one of the miners, who is elected by his fellows in each gulch for that purpose, and this secures him sufficient title. The miners' laws are practically the entire government in these districts, for the remoteness prevents any systematic communication being carried on with the United States. All questions and disputes are settled by miners' meetings, and the question in dispute is put to popular vote.

In prospecting, the elementary method of panning is used to discover the presence of gold in gravel, but after a claim is staked and systematic work begun, long sluice boxes are built of boards, the miners being obliged to fell the trees themselves and saw out the lumber with whipsaws, a very laborious kind of work. The depth of gravel in the bottom of the gulches varies from a foot up to 20 or 30 feet, and when it is deeper than the latter figure, it can not be worked.

The upper part of the gravel is barren, and the pay dirt lies directly upon the rock beneath, and is generally very thin. To get at this pay dirt all the upper gravel must be shoveled off, and this preliminary work often requires an

entire season, even in a very small claim. When the gravel is deeper than a certain amount, say 10 feet, the task of removing it becomes formidable. In this case, the pay dirt can sometimes be got at in the winter season, when the gravel is frozen hard, by sinking shafts through the gravel and drifting along the pay dirt.

The wages paid, says Professor Spurr, are from $10 to $12 a day; in winter, $5 to $8 for a six-hour day. The cost of living is very high, owing to the difficulty of transporting provisions, etc., and the great distances to be covered.

Prospecting in this country, says Mr. Wilson (Guide to Yukon Gold Fields), is very difficult owing to the character of the surface, the general formation being soft, the hills having been worn smooth by glacial action, which left a layer of drift over the whole country to a depth of from 5 to 15 feet. This is frozen the whole year, with the exception of a few inches on the surface. The method of prospecting is usually carried on by sinking a number of holes to bed rock across the bed of the creek, or cross cutting it by a tunnel and testing the dirt every few feet by panning, thus locating the pay streak. After a creek has been prospected, the glacial drift must be removed. The trees and roots are taken away and a stream of water turned on, which, with the help of the sun, in time bares the pay streak. The course of the water is then turned along the hillside, a dam built and sluice boxes erected. These are made with corrugated bottoms, which catch and retain the gold. They are given a grade regulated by the coarseness of the gold; if the gold is fine, the grade is slight; if coarse, a greater pitch can be given, which is preferable, as more dirt can be handled. The lack of water in these gulches proves a great hindrance in many cases. The seasons are dry, and only the glacial drip of the hills can be depended upon.

A method lately adopted by which mining can be done in winter has proved profitable, besides doing away with the long period of idleness. This is called burning, and is done by drifting,

melting away the frost by fire and taking out only the pay dirt, leaving the glacial drift and surface intact. The pay dirt thus removed is easily washed in the spring when water is plenty.

ROUTES TO THE KLONDIKE.

The Klondike region can be reached by St. Michaels and a voyage up the Yukon, which is perhaps the most comfortable but longest route. The current of the river is so swift that the trip up is necessarily slow. Boats from San Francisco, touching at Seattle, Victoria, and Unalaska, connect at St. Michaels Island with the river steamers. In the Guide to the Yukon Gold Fields, Mr. Wilson gives the following rates for the river boats, which he says accommodate about 100 passengers.

From Forty Mile Post to St. Michaels, first class, $50; second class, $30. The through trip to San Francisco costs, he says, from $150 to $175. After leaving the steamer, says the same authority, packs are carried by Indians and dogs in summer, and in winter are conveyed by sleds. The cost of freighting in summer is $30 per 100 pounds for a distance of 60 miles; in winter, $10 to $13 per 100 pounds. The dogs haul large loads and can cover long distances.

A more direct but more fatiguing route is from Lynn Channel to the Lewis River by way of several lakes. There is the Chilkat Pass (long and less used than formerly), the White, and the Chilkoot. The terminus of the White Pass is some 85 miles north of Juneau, and ocean steamers can run up to the landing at all times. The pass lies through a box canyon, and is comparatively easy. Mr. Wilson considers this the best pass, and says the trail would not exceed 32 miles in length, and would strike Windy arm of Tagish Lake, or Taku arm, coming in farther up the lake. This part of the lake is accessible to Lake Bennett, and the pass could be used as a mail route any month of the year. The

Chilkoot Pass is the one most used by miners. Steamers ply from Juneau to Dyea, a distance of 100 miles and the head of steamship navigation. The charge is $10 for one man and outfit. Mr. Wilson's description of the route is summarized as follows:

At Dyea, the actual journey begins. If the trip is made by sleighs, the parties usually do their own work; but if the snow and ice have left the canyon, the outfit will have to be packed to Lake Lindeman. Indian packers charge $14 per 100 pounds; the distance is about 24 miles. Canoes can be used for about 6 miles up the Dyea River; then the trail, steep and precipitous, leads up the canyon to the summit, 15 miles distant and 3,500 feet above tide water. From the summit, there is a sheer descent of 500 feet to the bed of Crater Lake. The water has cut a small canyon down the mountain side which should be followed to Lake Lindeman (24 miles from Dyea Inlet). Here a raft should be made with a deck of small poles a foot above the body, which prevents the waves from wetting the outfit. The latter should be protected by water-tight sacks, either of oilskin or canvas. A short portage of three-fourths of a mile (the fall being about 20 feet) leads to Lake Bennett. The stream connecting the two lakes is crooked and rocky, making it unsafe for a boat. Lake Lindeman is about 6 miles along, and opens up from May 15 to June 10. After reaching Lake Bennett, the journey may be continued by raft, or by ascending a small river which enters the head of the lake from the west, a distance of one mile; good boat timber may be found. The only timber used in the construction of boats is spruce or Norway pine. Lake Bennett is some 26 miles long; Caribou Crossing leads to Tagish Lake. Navigation on these two lakes is sometimes interrupted by the high winds. A wide, sluggish river leads to Lake Marsh, 20 miles long. The river from here to the canyon has about a 3-mile current. Just above the canyon, quantities of salmon are found. The canyon proper is five-eighths of a mile in length, but the distance to portage is about a mile, and that run by the boats is three-fourths of a mile. The average width of the canyon is 100 feet, and the water is very deep. There is little danger in passing the canyon, if the steersman does not lose his head. The water in the center is 4 feet higher than at the walls, and if the boat is kept under control it will remain on this crest, and so avoid striking the walls. The boat should be strong, and the cargo well protected from the water. It takes two minutes and twenty seconds to pass through the canyon. Two miles below, White Horse Rapids are reached. It is practically impossible to pass these, and portage must be resorted to. This part of the river can never be made navigable for steamers. A tramway could be easily built here, and operated by the power from the falls.

About 15 miles from the rapids, the Tahkeena River joins the Lewis. This

is the inland waterway used in connection with the Chilkat Pass, which is long (125 miles) and less used by miners or Indians. The Tahkeena is easily navigable. A steamer could ascend it perhaps 70 miles. Lake Labarge is 12 miles below the Tahkeena. This lake is 31 miles long and is often very rough. After leaving it, the current of the river increases to 5 or 6 miles an hour. The course is very crooked and the bed is filled with bowlders, which might make it dangerous for river steamers, especially on the down trip. The Hootalinqua, Big Salmon, and Little Salmon rivers enter the Lewis within the next hundred miles, the first two showing signs of gold. Fifty-three miles below the Little Salmon is the Five Fingers Rapid, which can be run with a good boat with comparative ease. The channel to the right should be followed. Rink Rapids are 6 miles below Five Fingers, and the east shore should be followed closely. Old Fort Selkirk is 55 miles from Five Fingers, and just below the confluence of the Pelly and Lewis rivers. Here the Yukon begins, and soon broadens to a mile in width. Ninety-six miles below, the White River enters from the west. This is a large stream, extremely muddy. It probably flows over volcanic deposits. Eighty miles farther on is the mouth of Sixty Mile Creek, where there is a trading post and sawmill, and where a number of miners annually winter. Thirty miles below, Indian Creek enters the Yukon, and 20 miles from Indian Creek is the mouth of the Klondike. Some 20 miles beyond is the mouth of Forty Mile Creek. There is a trading post at its outlet, and Dawson is near the mouth of the Klondike River. Circle City is 140 miles from Forty Mile Post, and Dawson is 676 miles from Juneau.

The act of Congress approved July 4, 1866, relating to mineral lands and mining in the United States, says:

All valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase, and lands in which these are found to occupation and purchase, by citizens of the United States and by those who have declared an intention to become such, under the rules prescribed by law and according to local customs or rules of miners in the several mining districts, so far as the same are applicable and not inconsistent with the laws of the United States.

The act of Congress approved May 17, 1884, providing for civil government for Alaska, has this language as to mines and mining privileges:

The laws of the United States relating to mining claims and rights incidental thereto shall, on and after the passage of this act, be in full force and effect in

said district of Alaska, subject to such regulations as may be made by the Secretary of the Interior and approved by the President. * * * Parties who have located mines or mining privileges therein, under the United States law applicable to the public domain, or have occupied or improved or exercised acts of ownership over such claims, shall not be disturbed therein, but shall be allowed to perfect title by payment so provided for.

Commissioner Hermann says that the patenting of mineral lands in Alaska has been going on since 1884.

UNITED STATES MINING LAWS.

As the mining laws of the United States apply to Alaska, they are printed here in full:

UNITED STATES MINING LAWS AND REGULATIONS THEREUNDER.*

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
December 10, 1891.

GENTLEMEN: Your attention is invited to the Revised Statutes of the United States and the amendments thereto in regard to

MINING LAWS AND MINING RESOURCES.

TITLE XXXII, CHAPTER 6.

SECTION 2318. In all cases lands valuable for minerals shall be reserved from sale, except as otherwise expressly directed by law.

SEC. 2319. All valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase, by citizens of the United States and those who have declared their intention to become such, under regulations prescribed by law, and according to the local customs or rules of miners in the several mining districts, so far as the same are applicable and not inconsistent with the laws of the United States.

SEC. 2320. Mining-claims upon veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits, here-

*Department of the Interior, General Land Office, Washington, May 16, 1893.—This circular is reissued for the information and benefit of those concerned.—S. W. Lamoreux, Commissioner.

tofore located, shall be governed as to length along the vein or lode by the customs, regulations, and laws in force at the date of their location. A mining-claim located after the tenth day of May, eighteen hundred and seventy-two, whether located by one or more persons, may equal, but shall not exceed, one thousand five hundred feet in length along the vein or lode; but no location of a mining-claim shall be made until the discovery of the vein or lode within the limits of the claim located. No claim shall extend more than three hundred feet on each side of the middle of the vein at the surface, nor shall any claim be limited by any mining regulation to less than twenty-five feet on each side of the middle of the vein at the surface, except where adverse rights existing on the tenth day of May, eighteen hundred and seventy-two, render such limitation necessary. The end-lines of each claim shall be parallel to each other.

SEC. 2321. Proof of citizenship, under this chapter, may consist, in the case of an individual, of his own affidavit thereof; in the case of an association of persons unincorporated, of the affidavit of their authorized agent, made on his own knowledge, or upon information and belief; and in the case of a corporation organized under the laws of the United States, or of any State or Territory thereof, by the filing of a certified copy of their charter or certificate of incorporation.

SEC. 2322. The locators of all mining locations heretofore made or which shall hereafter be made, on any mineral vein, lode, or ledge, situated on the public domain, their heirs and assigns, where no adverse claim exists on the tenth day of May, eighteen hundred and seventy-two, so long as they comply with the laws of the United States, and with State, Territorial, and local regulations not in conflict with the laws of the United States governing their possessory title, shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes, and ledges throughout their entire depth, the top or apex of which lies inside of such surface-lines extended downward vertically, although such veins, lodes, or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side-lines of such surface locations. But their right of possession to such outside parts of such veins or ledges shall be confined to such portions thereof as lie between vertical planes drawn downward as above described, through the end-lines of their locations, so continued in their own direction that such planes will intersect such exterior parts of such veins or ledges. And nothing in this section shall authorize the locator or possessor of a vein or lode which extends in its downward course beyond the vertical lines of his claim to enter upon the surface of a claim owned or possessed by another.

SEC. 2323. Where a tunnel is run for the development of a vein or lode, or for the discovery of mines, the owners of such tunnel shall have the right of

possession of all veins or lodes within three thousand feet from the face of such tunnel on the line thereof, not previously known to exist, discovered in such tunnel, to the same extent as if discovered from the surface; and locations on the line of such tunnel of veins or lodes not appearing on the surface, made by other parties after the commencement of the tunnel, and while the same is being prosecuted with reasonable diligence, shall be invalid; but failure to prosecute the work on the tunnel for six months shall be considered as an abandonment of the right to all undiscovered veins on the line of such tunnel.

SEC. 2324. The miners of each mining-district may make regulations not in conflict with the laws of the United States, or with the laws of the State or Territory in which the district is situated, governing the location, manner of recording, amount of work necessary to hold possession of a mining-claim, subject to the following requirements: The location must be distinctly marked on the ground so that its boundaries can be readily traced. All records of mining-claims hereafter made shall contain the name or names of the locators, the date of the location, and such a description of the claim or claims located by reference to some natural object or permanent monument as will identify the claim. On each claim located after the tenth day of May, eighteen hundred and seventy-two, and until a patent has been issued therefor, not less than one hundred dollars' worth of labor shall be performed or improvements made during each year. On all claims located prior to the tenth day of May, eighteen hundred and seventy-two, ten dollars' worth of labor shall be performed or improvements made by the tenth day of June, eighteen hundred and seventy-four, and each year thereafter, for each one hundred feet in length along the vein until a patent has been issued therefor; but where such claims are held in common, such expenditure may be made upon any one claim; and upon a failure to comply with these conditions, the claim or mine upon which such failure occurred shall be open to relocation in the same manner as if no location of the same had ever been made, provided that the original locators, their heirs, assigns, or legal representatives, have not resumed work upon the claim after failure and before such location. Upon the failure of any one of several co-owners to contribute his proportion of the expenditures required hereby, the co-owners who have performed the labor or made the improvements may, at the expiration of the year, give such delinquent co-owner personal notice in writing or notice by publication in the newspaper published nearest the claim, for at least once a week for ninety days, and if at the expiration of ninety days after such notice in writing or by publication such delinquent should fail or refuse to contribute his proportion of the expenditure required by this section, his interest in the claim shall become the property of his co-owners who have made the required expenditures.

SEC. 2325. A patent for any land claimed and located for valuable deposits may be obtained in the following manner: Any person, association, or corporation authorized to locate a claim under this chapter, having claimed and located a piece of land for such purposes, who has, or have, complied with the terms of this chapter, may file in the proper land-office an application for a patent, under oath, showing such compliance, together with a plat and field-notes of the claim or claims in common, made by or under the direction of the United States Surveyor-General, showing accurately the boundaries of the claim or claims, which shall be distinctly marked by monuments on the ground, and shall post a copy of such plat, together with a notice of such application for a patent, in a conspicuous place on the land embraced in such plat previous to the filing of the application for a patent, and shall file an affidavit of at least two persons that such notice has been duly posted, and shall file a copy of the notice in such land-office, and shall thereupon be entitled to a patent for the land, in the manner following: The register of the land-office, upon the filing of such application, plat, field-notes, notices, and affidavits, shall publish a notice that such application has been made, for the period of sixty days, in a newspaper to be by him designated as published nearest to such claim; and he shall also post such notice in his office for the same period. The claimant at the time of filing this application, or at any time thereafter, within the sixty days of publication, shall file with the register a certificate of the United States Surveyor-General that five hundred dollars' worth of labor has been expended or improvements made upon the claim by himself or grantors; that the plat is correct, with such further description by such reference to natural objects or permanent monuments as shall identify the claim, and furnish an accurate description, to be incorporated in the patent. At the expiration of the sixty days of publication, the claimant shall file his affidavit, showing that the plat and notice have been posted in a conspicuous place on the claim during such period of publication. If no adverse claim shall have been filed with the register and the receiver of the proper land-office at the expiration of the sixty days of publication, it shall be assumed that the applicant is entitled to a patent, upon the payment to the proper officer of five dollars per acre, and that no adverse claim exists; and thereafter no objection from third parties to the issuance of a patent shall be heard, except it be shown that the applicant has failed to comply with the terms of this chapter.

SEC. 2326. Where an adverse claim is filed during the period of publication, it shall be upon oath of the person or persons making the same, and shall show the nature, boundaries, and extent of such adverse claim, and all proceedings, except the publication of notice and making and filing of the affidavit thereof, shall be stayed until the controversy shall have been settled or decided by a court of competent jurisdiction, or the adverse claim waived. It shall be the

duty of the adverse claimant, within thirty days after filing his claim, to commence proceedings in a court of competent jurisdiction, to determine the question of the right of possession, and prosecute the same with reasonable diligence to final judgment; and a failure so to do shall be a waiver of his adverse claim. After such judgment shall have been rendered, the party entitled to the possession of the claim, or any portion thereof, may, without giving further notice, file a certified copy of the judgment-roll with the register of the land-office, together with the certificate of the surveyor-general that the requisite amount of labor has been expended or improvements made thereon, and the description required in other cases, and shall pay to the receiver five dollars per acre for his claim, together with the proper fees, whereupon the whole proceedings and the judgment-roll shall be certified by the register to the Commissioner of the General Land Office, and a patent shall issue thereon for the claim, or such portion thereof as the applicant shall appear, from the decision of the court, to rightly possess. If it appears from the decision of the court that several parties are entitled to separate and different portions of the claim, each party may pay for his portion of the claim with the proper fees, and file the certificate and description by the surveyor-general, whereupon the register shall certify the proceedings and judgment-roll to the Commissioner of the General Land Office, as in the preceding case, and patents shall issue to the several parties according to their respective rights. Nothing herein contained shall be construed to prevent the alienation of a title conveyed by a patent for a mining-claim to any person whatever.

SEC. 2327. The description of vein or lode claims, upon surveyed lands, shall designate the location of the claim with reference to the lines of the public surveys, but need not conform therewith; but where a patent shall be issued for claims upon unsurveyed lands, the surveyor-general, in extending the surveys, shall adjust the same to the boundaries of such patented claim, according to the plat or description thereof, but so as in no case to interfere with or change the location of any such patented claim.

SEC. 2328. Applications for patents for mining-claims under former laws now pending may be prosecuted to a final decision in the General Land Office; but in such cases where adverse rights are not affected thereby, patents may issue in pursuance of the provisions of this chapter; and all patents for mining-claims upon veins or lodes heretofore issued shall convey all the rights and privileges conferred by this chapter where no adverse rights existed on the tenth day of May, eighteen hundred and seventy-two.

SEC. 2329. Claims usually called "placers," including all forms of deposit, excepting veins of quartz, or other rock in place, shall be subject to entry and

patent, under like circumstances and conditions, and upon similar proceedings, as are provided for vein or lode claims; but where the lands have been previously surveyed by the United States, the entry in its exterior limits shall conform to the legal subdivisions of the public lands.

SEC. 2330. Legal subdivisions of forty acres may be subdivided into ten-acre tracts; and two or more persons, or associations of persons, having contiguous claims of any size, although such claims may be less than ten acres each, may make joint entry thereof; but no location of a placer-claim, made after the ninth day of July, eighteen hundred and seventy, shall exceed one hundred and sixty acres for any one person or association of persons, which location shall conform to the United States surveys; and nothing in this section contained shall defeat or impair any bona fide pre-emption or homestead claim upon agricultural lands, or authorize the sale of the improvements of any bona fide settler to any purchaser.

SEC. 2331. Where placer-claims are upon surveyed lands, and conform to legal subdivisions, no further survey or plat shall be required, and all placer-mining claims located after the tenth day of May, eighteen hundred and seventy-two, shall conform as near as practicable with the United States system of public-land surveys, and the rectangular subdivisions of such surveys, and no such location shall include more than twenty acres for each individual claimant; but where placer-claims can not be conformed to legal subdivisions, survey and plat shall be made as on unsurveyed lands; and where by the segregation of mineral lands in any legal subdivision a quantity of agricultural land less than forty acres remains, such fractional portion of agricultural land may be entered by any party qualified by law, for homestead or pre-emption purposes.

SEC. 2332. Where such person or association, they and their grantors, have held and worked their claims for a period equal to the time prescribed by the statute of limitations for mining-claims of the State or Territory where the same may be situated, evidence of such possession and working of the claims for such period shall be sufficient to establish a right to a patent thereto under this chapter, in the absence of any adverse claim; but nothing in this chapter shall be deemed to impair any lien which may have attached in any way whatever to any mining-claim or property thereto attached prior to the issuance of a patent.

SEC. 2333. Where the same person, association, or corporation is in possession of a placer-claim, and also a vein or lode included within the boundaries thereof, application shall be made for a patent for the placer-claim, with the statement that it includes such vein or lode, and in such case a patent shall issue for the placer-claim, subject to the provisions of this chapter, including such vein or lode, upon the payment of five dollars per acre for such vein or lode claim, and

twenty-five feet of surface on each side thereof. The remainder of the placer-claim, or any placer-claim not embracing any vein or lode-claim, shall be paid for at the rate of two dollars and fifty cents per acre, together with all costs of proceedings; and where a vein or lode, such as is described in section twenty-three hundred and twenty, is known to exist within the boundaries of a placer-claim, an application for a patent for such placer-claim which does not include an application for the vein or lode claim shall be construed as a conclusive declaration that the claimant of the placer-claim has no right of possession of the vein or lode claim; but where the existence of a vein or lode in a placer-claim is not known, a patent for the placer-claim shall convey all valuable mineral and other deposits within the boundaries thereof.

SEC. 2334. The surveyor-general of the United States may appoint in each land-district containing mineral lands as many competent surveyors as shall apply for appointment to survey mining-claims. The expenses of the survey of vein or lode claims, and the survey and subdivision of placer-claims into smaller quantities than one hundred and sixty acres, together with the cost of publications of notices, shall be paid by the applicants, and they shall be at liberty to obtain the same at the most reasonable rates, and they shall also be at liberty to employ any United States deputy surveyor to make the survey. The Commissioner of the General Land Office shall also have power to establish the maximum charges for surveys and publication of notices under this chapter; and, in case of excessive charges for publication, he may designate any newspaper published in a land-district where mines are situated for the publication of mining-notices in such district, and fix the rates to be charged by such paper; and, to the end that the Commissioner may be fully informed on the subject, each applicant shall file with the register a sworn statement of all charges and fees paid by such applicant for publication and surveys, together with all fees and money paid the register and the receiver of the land-office, which statement shall be transmitted, with the other papers in the case, to the Commissioner of the General Land Office.

SEC. 2335. All affidavits required to be made under this chapter may be verified before any officer authorized to administer oaths within the land-district where the claims may be situated, and all testimony and proofs may be taken before any such officer, and, when duly certified by the officer taking the same, shall have the same force and effect as if taken before the register and receiver of the land-office. In cases of contest as to the mineral or agricultural character of land, the testimony and proofs may be taken as herein provided on personal notice of at least ten days to the opposing party; or if such party cannot be found, then by publication of at least once a week for thirty days in a newspaper, to be designated by the register of the land-office as published nearest to

the location of such land; and the register shall require proof that such notice has been given.

SEC. 2336. Where two or more veins intersect or cross each other, priority of title shall govern, and such prior location shall be entitled to all ore or mineral contained within the space of intersection; but the subsequent location shall have the right of way through the space of intersection for the purposes of the convenient working of the mine. And where two or more veins unite, the oldest or prior location shall take the vein below the point of union, including all the space of intersection.

SEC. 2337. Where non-mineral land not contiguous to the vein or lode is used or occupied by the proprietor of such vein or lode for mining or milling purposes, such non-adjacent surface-ground may be embraced and included in an application for a patent for such vein or lode, and the same may be patented therewith, subject to the same preliminary requirements as to survey and notice as are applicable to veins or lodes; but no location hereafter made of such non-adjacent land shall exceed five acres, and payment for the same must be made at the same rate as fixed by this chapter for the superficies of the lode. The owner of a quartz-mill or reduction works, not owning a mine in connection therewith, may also receive a patent for his mill-site, as provided in this section.

SEC. 2338. As a condition of sale, in the absence of necessary legislation by Congress, the local legislature of any State or Territory may provide rules for working mines, involving easements, drainage, and other necessary means to their complete development; and those conditions shall be fully expressed in the patent.

SEC. 2339. Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed; but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

SEC. 2340. All patents granted, or pre-emption or homesteads allowed, shall be subject to any vested and accrued water-rights, or rights to ditches and reservoirs used in connection with such water-rights, as may have been acquired under or recognized by the preceding section.

SEC. 2341. Wherever, upon the lands heretofore designated as mineral lands, which have been excluded from survey and sale, there have been homesteads

made by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved, and used for agricultural purposes, and upon which there have been no valuable mines of gold, silver, cinnabar, or copper discovered, and which are properly agricultural lands, the settlers or owners of such homesteads shall have a right of pre-emption thereto, and shall be entitled to purchase the same at the price of one dollar and twenty-five cents per acre, and in quantity not to exceed one hundred and sixty acres; or they may avail themselves of the provisions of chapter five of this title, relating to "Homesteads."

SEC. 2342. Upon the survey of the lands described in the preceding section, the Secretary of the Interior may designate and set apart such portions of the same as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands, and be subject to all the laws and regulations applicable to the same.

SEC. 2343. The President is authorized to establish additional land-districts, and to appoint the necessary officers under existing laws, wherever he may deem the same necessary for the public convenience in executing the provisions of this chapter.

SEC. 2344. Nothing contained in this chapter shall be construed to impair, in any way, rights or interests in mining property acquired under existing laws; nor to affect the provisions of the act entitled "An act granting to A. Sutro the right of way and other privileges to aid in the construction of a draining and exploring tunnel to the Comstock lode, in the State of Nevada," approved July twenty-five, eighteen hundred and sixty-six.

SEC. 2345. The provisions of the preceding sections of this chapter shall not apply to the mineral lands situated in the States of Michigan, Wisconsin, and Minnesota, which are declared free and open to exploration and purchase, according to legal subdivisions, in like manner as before the tenth day of May, eighteen hundred and seventy-two. And any bona fide entries of such lands within the States named since the tenth of May, eighteen hundred and seventy-two, may be patented without reference to any of the foregoing provisions of this chapter. Such lands shall be offered for public sale in the same manner, at the same minimum price, and under the same rights of pre-emption as other public lands.

SEC. 2346. No act passed at the first session of the thirty-eighth Congress, granting lands to States or corporations to aid in the construction of roads or for other purposes, or to extend the time of grants made prior to the thirtieth day of January, eighteen hundred and sixty-five, shall be so construed as to embrace mineral lands, which in all cases are reserved exclusively to the United States, unless otherwise specially provided in the act or acts making the grant.

REPEAL PROVISIONS.

TITLE LXXIV.

SEC. 5595. The foregoing seventy-three titles embrace the statutes of the United States general and permanent in their nature, in force on the 1st day of December, one thousand eight hundred and seventy-three, as revised and consolidated by commissioners appointed under an act of Congress, and the same shall be designated and cited as The Revised Statutes of the United States.

SEC. 5596. All acts of Congress passed prior to said first day of December, one thousand eight hundred and seventy-three, any portion of which is embraced in any section of said revision, are hereby repealed, and the section applicable thereto shall be in force in lieu thereof; all parts of such acts not contained in such revision, having been repealed or superseded by subsequent acts, or not being general and permanent in their nature: *Provided,* That the incorporation into such revision of any general and permanent provision, taken from an act making appropriations, or from an act containing other provisions of a private, local or temporary character, shall not repeal, or in any way affect any appropriation, or any provision of a private, local, or temporary character, contained in any of said acts, but the same shall remain in force; and all acts of Congress passed prior to said last-named day no part of which are embraced in said revision, shall not be affected or changed by its enactment.

SEC. 5597. The repeal of the several acts embraced in said revision, shall not affect any act done, or any right accruing or accrued, or any suit or proceeding had or commenced in any civil cause before the said repeal, but all rights and liabilities under said acts shall continue, and may be enforced in the same manner, as if said repeal had not been made; nor shall said repeal, in any manner affect the right to any office, or change the term or tenure thereof.

SEC. 5598. All offenses committed, and all penalties or forfeitures incurred under any statute embraced in said revision prior to said repeal, may be prosecuted and punished in the same manner and with the same effect, as if said repeal had not been made.

SEC. 5599. All acts of limitation, whether applicable to civil causes and proceedings, or to the prosecution of offenses, or for the recovery of penalties or forfeitures, embraced in said revision and covered by said repeal, shall not be affected thereby, but all suits, proceedings or prosecutions, whether civil or criminal, for causes arising, or acts done or committed prior to said repeal, may be commenced and prosecuted within the same time as if said repeal had not been made.

SEC. 5600. The arrangement and classification of the several sections of the

revision have been made for the purpose of a more convenient and orderly arrangement of the same, and therefore no inference or presumption of a legislative construction is to be drawn by reason of the Title, under which any particular section is placed.

SEC. 5601. The enactment of the said revision is not to affect or repeal any act of Congress passed since the first day of December, one thousand eight hundred and seventy-three, and all acts passed since that date are to have full effect as if passed after the enactment of this revision, and so far as such acts vary from, or conflict with any provision contained in said revision, they are to have effect as subsequent statutes, and as repealing any portion of the revision inconsistent therewith.

Approved, June 22, 1874.

AN ACT to amend the act entitled "An act to promote the development of the mining resources of the United States," passed May tenth, eighteen hundred and seventy-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provisions of the fifth section of the act entitled "An act to promote the development of the mining resources of the United States," passed May tenth, eighteen hundred and seventy-two, which requires expenditures of labor and improvements on claims located prior to the passage of said act, are hereby so amended that the time for the first annual expenditure on claims located prior to the passage of said act shall be extended to the first day of January, eighteen hundred and seventy-five.

Approved, June 6, 1874 (18 Stat., 61).

AN ACT to amend section two thousand three hundred and twenty-four of the Revised Statutes, relating to the development of the mining resources of the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section two thousand three hundred and twenty-four of the Revised Statutes be, and the same is hereby amended so that where a person or company has or may run a tunnel for the purpose of developing a lode or lodes, owned by said person or company, the money so expended in said tunnel shall be taken and considered as expended on said lode or lodes, whether located prior to or since the passage of said act, and such person or company shall not be required to perform work on the surface of said lode or lodes in order to hold the same as required by said act.

Approved February 11, 1875 (18 Stat., 315).

AN ACT to exclude the States of Missouri and Kansas from the provisions of the act of Congress entitled "An act to promote the development of the mining resources of the United States," approved May tenth, eighteen hundred and seventy-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That within the States of Missouri and Kansas deposits of coal, iron, lead, or other mineral be, and they are hereby, excluded from the operation of the act entitled "An act to promote the development of the mining resources of the United States," approved May tenth, eighteen hundred and seventy-two, and all lands in said States shall be subject to disposal as agricultural lands.

Approved May 5, 1876 (19 Stat., 52).

AN ACT authorizing the citizens of Colorado, Nevada, and the Territories to fell and remove timber on the public domain for mining and domestic purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all citizens of the United States and other persons, bona fide residents of the State of Colorado or Nevada, or either of the Territories of New Mexico, Arizona, Utah, Wyoming, Dakota, Idaho, or Montana, and all other mineral districts of the United States, shall be and are hereby, authorized and permitted to fell and remove, for building, agricultural, mining, or other domestic purposes, any timber or other trees growing or being on the public lands, said lands being mineral, and not subject to entry under existing laws of the United States, except for mineral entry, in either of said States, Territories, or districts of which such citizens or persons may be at the time bona fide residents, subject to such rules and regulations as the Secretary of the Interior may prescribe for the protection of the timber and of the undergrowth growing upon such lands, and for other purposes: *Provided,* The provisions of this act shall not extend to railroad corporations.

SEC. 2. That it shall be the duty of the register and the receiver of any local land-office in whose district any mineral land may be situated to ascertain from time to time whether any timber is being cut or used upon any such lands, except for the purposes authorized by this act, within their respective land districts; and, if so, they shall immediately notify the Commissioner of the General Land Office of that fact; and all necessary expenses incurred in making such proper examinations shall be paid and allowed such register and receiver in making up their next quarterly accounts.

SEC. 3. Any person or persons who shall violate the provisions of this act, or any rules and regulations in pursuance thereof made by the Secretary of the

Interior, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be fined in any sum not exceeding five hundred dollars, and to which may be added imprisonment for any term not exceeding six months.

Approved June 3, 1878 (20 Stat., 88).

AN ACT to amend sections twenty-three hundred and twenty-four and twenty-three hundred and twenty-five of the Revised Statutes of the United States concerning mineral lands.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section twenty-three hundred and twenty-five of the Revised Statutes of the United States be amended by adding thereto the following words: "*Provided,* That where the claimant for a patent is not a resident of or within the land-district wherein the vein, lode, ledge, or deposit sought to be patented is located, the application for patent and the affidavits required to be made in this section by the claimant for such patent may be made by his, her, or its authorized agent, where said agent is conversant with the facts sought to be established by such affidavits: *And provided,* That this section shall apply to all applications now pending for patents to mineral lands."

SEC. 2. That section twenty-three hundred and twenty-four of the Revised Statutes of the United States be amended by adding the following words: "*Provided,* That the period within which the work required to be done annually on all unpatented mineral claims shall commence on the first day of January succeeding the date of location of such claim, and this section shall apply to all claims located since the tenth day of May, anno Domini eighteen hundred and seventy-two."

Approved January 22, 1880 (21 Stat., 61).

AN ACT to amend section twenty-three hundred and twenty-six of the Revised Statutes relating to suits at law affecting the title to mining-claims.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That if, in any action brought pursuant to section twenty-three hundred and twenty-six of the Revised Statutes, title to the ground in controversy shall not be established by either party, the jury shall so find, and judgment shall be entered according to the verdict. In such case costs shall not be allowed to either party, and the claimant shall not proceed in the land-office or be entitled to a patent for the ground in controversy until he shall have perfected his title.

Approved March 3, 1881 (21 Stat., 505).

AN ACT to amend section twenty-three hundred and twenty-six of the Revised Statutes, in regard to mineral lands, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: That the adverse claim required by section twenty-three hundred and twenty-six of the Revised Statutes may be verified by the oath of any duly authorized agent or attorney-in-fact of the adverse claimant cognizant of the facts stated; and the adverse claimant, if residing or at the time being beyond the limits of the district wherein the claim is situated, may make oath to the adverse claim before the clerk of any court of record of the United States or the State or Territory where the adverse claimant may then be, or before any notary public of such State or Territory.

SEC. 2. That applicants for mineral patents, if residing beyond the limits of the district wherein the claim is situated, may make any oath or affidavit required for proof of citizenship before the clerk of any court of record, or before any notary public of any State or Territory.

Approved April 26, 1882. (22 Stat., 49.)

AN ACT to exclude the public lands in Alabama from the operation of the laws relating to mineral lands.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That within the State of Alabama all public lands, whether mineral or otherwise, shall be subject to disposal only as agricultural lands: *Provided, however,* That all lands which have heretofore been reported to the General Land Office as containing coal and iron shall first be offered at public sale: *And provided further,* That any bona fide entry under the provisions of the homestead law of lands within said State heretofore made may be patented without reference to an act approved May tenth, eighteen hundred and seventy-two, entitled, "An act to promote the development of the mining resources of the United States," in cases where the persons making application for such patents have in all other respects complied with the homestead law relating thereto.

Approved, March 3, 1883. (22 Stat., 487.)

AN ACT providing a civil government for Alaska.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled, * * * * * * *

SEC. 8. That the said district of Alaska is hereby created a land district, and a United States land office for said district is hereby located at Sitka. The

commissioner provided for by this act to reside at Sitka shall be ex officio register of said land office, and the clerk provided for by this act shall be ex officio receiver of public moneys and the marshal provided for by this act shall be ex officio surveyor-general of said district and the laws of the United States relating to mining claims, and the rights incident thereto, shall, from and after the passage of this act, be in full force and effect in said district, under the administration thereof herein provided for, subject to such regulations as may be made by the Secretary of the Interior, approved by the President: *Provided*, That the Indians or other persons in said district shall not be disturbed in the possession of any lands actually in their use or occupation or now claimed by them, but the terms under which such persons may acquire title to such lands is reserved for future legislation by Congress: *And provided further*, That parties who have located mines or mineral privileges therein under the laws of the United States applicable to the public domain, or who have occupied and improved or exercised acts of ownership over such claims, shall not be disturbed therein, but shall be allowed to perfect their title to such claims by payment as aforesaid: *And provided also*, That the land not exceeding six hundred and forty acres at any station now occupied as missionary stations among the Indian tribes in said section, with the improvements thereon erected by or for such societies, shall be continued in the occupancy of the several religious societies to which said missionary stations respectively belong until action by Congress. But nothing contained in this act shall be construed to put in force in said district the general land laws of the United States.

* * * * * * *

Approved May 17, 1884. (23 Stat., 24.)

AN ACT making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, * * * * *

No person who shall, after the passage of this act, enter upon any of the public lands with a view to occupation, entry, or settlement under any of the land laws shall be permitted to acquire title to more than three hundred and twenty acres in the aggregate, under all of said laws, but this limitation shall not operate to curtail the right of any person who has heretofore made entry or settlement on the public lands, or whose occupation, entry, or settlement is validated by this act: *Provided*, That in all patents for lands hereafter taken up under any of the land laws of the United States or on entries or claims validated by this

act, west of the one hundredth meridian it shall be expressed that there is reserved from the lands in said patent described a right of way thereon for ditches or canals constructed by the authority of the United States. * * *

Approved August 30, 1890. (26 Stat., 371.)

AN ACT to repeal timber-culture laws, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, * * * * * *

SEC. 16. That townsite entries may be made by incorporated towns and cities on the mineral lands of the United States, but no title shall be acquired by such towns or cities to any vein of gold, silver, cinnabar, copper, or lead, or to any valid mining claim or possession held under existing law. When mineral veins are possessed within the limits of an incorporated town or city, and such possession is recognized by local authority or by the laws of the United States, the title to town lots shall be subject to such recognized possession and the necessary use thereof and when entry has been made or patent issued for such townsites to such incorporated town or city, the possessor of such mineral vein may enter and receive patent for such mineral vein, and the surface ground appertaining thereto: *Provided*, That no entry shall be made by such mineral-vein claimant for surface ground where the owner or occupier of the surface ground shall have had possession of the same before the inception of the title of the mineral-vein applicant.

SEC. 17. That reservoir sites located or selected and to be located and selected under the provisions of "An act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and eighty-nine, and for other purposes," and amendments thereto, shall be restricted to and shall contain only so much land as is actually necessary for the construction and maintenance of reservoirs, excluding so far as practicable lands occupied by actual settlers at the date of the location of said reservoirs, and that the provisions of "An act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, and for other purposes," which reads as follows, viz: "No person who shall after the passage of this act enter upon any of the public lands with a view to occupation, entry, or settlement under any of the land laws shall be permitted to acquire title to more than three hundred and twenty acres in the aggregate under all said laws," shall be construed to include in the maximum amount of lands the title to which is permitted to be acquired by one person

only agricultural lands and not include lands entered or sought to be entered under mineral land laws.

* * * * * * *

Approved, March 3, 1891. (26 Stat., 1095.)

MINERAL LANDS OPEN TO EXPLORATION, OCCUPATION, AND PURCHASE.

1. It will be perceived that by the foregoing provisions of law the mineral lands in the public domain, surveyed or unsurveyed, are open to exploration, occupation, and purchase by all citizens of the United States and all those who have declared their intentions to become such.

STATUS OF LODE-CLAIMS LOCATED PRIOR TO MAY 10, 1872.

2. By an examination of the several sections of the Revised Statutes it will be seen that the *status* of lode-claims located *previous* to the 10th May, 1872, is not changed with regard to their *extent along the lode or width of surface.*

3. Mining rights acquired under such previous locations are, however, enlarged by such Revised Statutes in the following respect, viz: The locators of all such previously taken veins or lodes, their heirs and assigns, so long as they comply with the laws of Congress and with State, Territorial, or local regulations not in conflict therewith, governing mining claims, are invested with the exclusive possessory right of all the surface included within the lines of their locations, and of all veins, lodes, or ledges throughout their entire depth, the top or apex of which lies inside of such surface lines extended downward vertically, although such veins, lodes, or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side-lines of such locations at the surface, it being expressly provided, however, that the right of possession to such outside parts of said veins or ledges shall be confined to such portions thereof as lie between vertical planes drawn downward, as aforesaid, through the end lines of their locations so continued in their own direction that such planes will intersect such exterior parts of such veins, lodes, or ledges; no right being granted, however, to the claimant of such outside portion of a vein or ledge to enter upon the surface location of another claimant.

4. It is to be distinctly understood, however, that the law limits the possessory right to veins, lodes, or ledges, *other* than the one named in the original location, to such as were not *adversely claimed on May 10, 1872,* and that where such other vein or ledge was so adversely claimed at that date, the right of the party so adversely claiming is in no way impaired by the provisions of the Revised Statutes.

5. In order to hold the possessory title to a mining claim located prior to May 10, 1872, and for which a patent has not been issued, the law requires that

ten dollars shall be expended annually in labor or improvements on each claim of *one hundred feet* on the course of the vein or lode until a patent shall have been issued therefor; but where a number of such claims are held in common upon the same vein or lode, the aggregate expenditure that would be necessary to hold all the claims, at the rate of ten dollars per hundred feet, may be made upon any one claim; a failure to comply with this requirement in any one year subjecting the claim upon which such failure occurred to relocation by other parties, the same as if no previous location thereof had ever been made, unless the claimants under the original location shall have resumed work thereon after such failure and before such relocation. The first annual expenditure upon claims of this class should have been performed subsequent to May 10, 1872, and prior to January 1, 1875. From and after January 1, 1875, the required amount must be expended *annually* until patent issues. By decision of the honorable Secretary of the Interior, dated March 4, 1879, such annual expenditures are not required subsequent to entry, the date of issuing the patent certificate being the date contemplated by statute.

6. Upon the failure of any one of several co-owners of a vein, lode, or ledge, which has not been entered, to contribute his proportion of the expenditures necessary to hold the claim or claims so held in ownership in common, the co-owners, who have performed the labor or made the improvements as required by said Revised Statutes, may, at the expiration of the year, give such delinquent co-owner personal notice in writing, or notice by publication in the newspaper published nearest the claim for at least once a week for ninety days; and if upon the expiration of ninety days after such notice in writing, or upon the expiration of one hundred and eighty days after the first newspaper publication of notice, the delinquent co-owner shall have failed to contribute his proportion to meet such expenditures or improvements, his interest in the claim by law passes to his co-owners who have made the expenditures or improvements as aforesaid. Where a claimant alleges ownership of a forfeited interest under the foregoing provision, the sworn statement of the publisher as to the facts of publication, giving dates and a printed copy of the notice published, should be furnished, and the claimant must swear that the delinquent co-owner failed to contribute his proper proportion within the period fixed by the statute.

PATENTS FOR VEINS OR LODES HERETOFORE ISSUED.

7. Rights under patents for veins or lodes heretofore granted under previous legislation of Congress are enlarged by the Revised Statutes so as to invest the patentee, his heirs or assigns, with title to all veins, lodes, or ledges throughout their entire depth, the top or apex of which lies within the end and side boundary lines of his claim on the surface, as patented, extended downward vertically,

although such veins, lodes, or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side-lines of the claim at the surface. The right of possession to such outside parts of such veins or ledges to be confined to such portions thereof as lie between vertical planes drawn downward through the end lines of the claims at the surface, so continued in their own direction that such planes will intersect such exterior parts of such veins or ledges; it being expressly provided, however, that all veins, lodes, or ledges, the top or apex of which lies inside such surface locations, *other* than the one named in the patent, which were *adversely claimed on the 10th May, 1872*, are excluded from such conveyance by patent.

8. Applications for patents for mining-claims pending at the date of the act of May 10, 1872, may be prosecuted to final decision in the General Land Office, and where no adverse rights are affected thereby, patents will be issued in pursuance of the provisions of the Revised Statutes.

MANNER OF LOCATING CLAIMS ON VEINS OR LODES AFTER MAY 10, 1872.

9. From and after the 10th May, 1872, any person who is a citizen of the United States, or who has declared his intention to become a citizen, may locate, record, and hold a mining claim of *fifteen hundred linear feet* along the course of any mineral vein or lode subject to location; or an association of persons, severally qualified as above, may make joint location of such claim of *fifteen hundred feet*, but in no event can a location of a vein or lode made subsequent to May 10, 1872, exceed fifteen hundred feet along the course thereof, whatever may be the number of persons composing the association.

10. With regard to the extent of surface-ground adjoining a vein or lode, and claimed for the convenient working thereof, the Revised Statutes provide that the lateral extent of locations of veins or lodes made after May 10, 1872, shall in no case *exceed three hundred feet on each side of the middle of the vein at the surface*, and that no such surface rights shall be limited by any mining regulations to less than twenty-five feet on each side of the middle of the vein at the surface, except where adverse rights existing on the 10th May, 1872, may render such limitation necessary; the end-lines of such claims to be in all cases parallel to each other. Said lateral measurements cannot extend beyond three hundred feet on *either* side of the middle of the vein at the surface, or such distance as is allowed by local laws. For example: 400 feet cannot be taken on one side and 200 feet on the other. If, however, 300 feet on each side are allowed, and by reason of prior claims but 100 feet can be taken on one side, the locator will not be restricted to less than 300 feet on the other side; and when the locator does not determine by exploration *where* the middle of the vein at the surface is, his discovery shaft must be assumed to mark such point.

11. By the foregoing it will be perceived that no lode-claim located after the 10th May, 1872, can exceed a parallelogram fifteen hundred feet in length by six hundred feet in width, but whether surface-ground of that width can be taken, depends upon the local regulations or State or Territorial laws in force in the several mining districts; and that no such local regulations or State or Territorial laws shall limit a vein or lode claim to less than fifteen hundred feet along the course thereof, whether the location is made by one or more persons, nor can surface rights be limited to less than fifty feet in width, unless adverse claims existing on the 10th day of May, 1872, render such lateral limitation necessary.

12. It is provided by the Revised Statutes that the miners of each district may make rules and regulations not in conflict with the laws of the United States, or of the State or Territory in which such districts are respectively situated, governing the location, manner of recording, and amount of work necessary to hold possession of a claim. They likewise require that the location shall be so distinctly marked on the ground that its boundaries may be readily traced. This is a very important matter, and locators cannot exercise too much care in defining their locations at the outset, inasmuch as the law requires that all records of mining locations made subsequent to May 10, 1872, shall contain the name or names of the locators, the date of the location, and such a *description of the claim or claims* located, by reference to some natural object or permanent monument, as will identify the claim.

13. The statutes provide that no lode-claim shall be recorded until after the discovery of a vein or lode within the limits of the claim located, the object of which provision is evidently to prevent the appropriation of presumed mineral ground for speculative purposes to the exclusion of *bona fide* prospectors, before sufficient work has been done to determine whether a vein or lode really exists.

14. The claimant should, therefore, prior to locating his claim, unless the vein can be traced upon the surface, sink a shaft, or run a tunnel or drift, to a sufficient depth therein to discover and develop a mineral-bearing vein, lode, or crevice; should determine, if possible, the general course of such vein in either direction from the point of discovery, by which direction he will be governed in marking the boundaries of his claim on the surface. His location notice should give the course and distance as nearly as practicable from the discovery-shaft on the claim, to some permanent, well-known points or objects, such, for instance, as stone monuments, blazed trees, the confluence of streams, point of intersection of well-known gulches, ravines, or roads, prominent buttes, hills, etc., which may be in the immediate vicinity, and which will serve to perpetuate and fix the *locus* of the claim and render it susceptible of identification from the description thereof given in the record of locations in the district, and should be duly recorded.

15. In addition to the foregoing data, the claimant should state the names of adjoining claims, or, if none adjoin, the relative positions of the nearest claims; should drive a post or erect a monument of stones at each corner of his surface-ground, and at the point of discovery or discovery shaft should fix a post, stake, or board, upon which should be designated the name of the lode, the name or names of the locators, the number of feet claimed, and in which direction from the point of discovery; it being essential that the location notice filed for record, in addition to the foregoing description should state whether the entire claim of fifteen hundred feet is taken on one side of the point of discovery, or whether it is partly upon one and partly upon the other side thereof, and in the latter case, how many feet are claimed upon each side of such discovery-point.

16. Within a reasonable time, say twenty days after the location shall have been marked on the ground, or such time as is allowed by the local laws, notice thereof, accurately describing the claim in manner aforesaid, should be filed for record with the proper recorder of the district, who will thereupon issue the usual certificate of location.

17. In order to hold the possessory right to a location made since May 10, 1872, not less than one hundred dollars' worth of labor must be performed, or improvements made thereon annually until entry shall have been made. Under the provisions of the act of Congress approved January 22, 1880, the first annual expenditure becomes due and must be performed during the calendar year succeeding that in which the location was made. Expenditure made or labor performed prior to the first day of January succeeding the date of location will not be considered as a part of, or applied upon the first annual expenditure required by law. Failure to make the expenditure or perform the labor required will subject the claim to relocation by any other party having the necessary qualifications, unless the original locator, his heirs, assigns, or legal representatives have resumed work thereon after such failure and before such relocation.

18. The expenditures required upon mining-claims may be made from the surface or in running a tunnel for the development of such claims, the act of February 11, 1875, providing that where a person or company has, or may, run a tunnel for the purpose of developing a lode or lodes owned by said person or company, the money so expended in said tunnel shall be taken and considered as expended on said lode or lodes, and such person or company shall not be required to perform work on the surface of said lode or lodes in order to hold the same.

19. The importance of attending to these details in the matter of location, labor, and expenditure will be the more readily perceived when it is understood that a failure to give the subject proper attention may invalidate the claim.

TUNNEL RIGHTS.

20. Section 2323 provides that where a tunnel is run for the development of a vein or lode, or for the discovery of mines, the owners of such tunnels shall have the right of possession of all veins or lodes within three thousand feet from the face of such tunnel on the line thereof, not previously known to exist, discovered in such tunnel, to the same extent as if discovered from the surface; and locations on the line of such tunnel or veins or lodes not appearing on the surface, made by other parties after the commencement of the tunnel, and while the same is being prosecuted with reasonable diligence, shall be invalid; but failure to prosecute the work on the tunnel for six months shall be considered as an abandonment of the right to all undiscovered veins or lodes on the line of said tunnel.

The effect of this is simply to give the proprietors of a mining tunnel run in good faith the possessory right to fifteen hundred feet of any blind lodes cut, discovered, or intersected by such tunnel, which were not previously known to exist, within three thousand feet from the face or point of commencement of such tunnel, and to prohibit other parties, after the commencement of the tunnel, from prospecting for and making locations of lodes on the *line thereof* and within said distance of three thousand feet, unless such lodes appear upon the surface or were previously known to exist.

22. The term "face," as used in said section, is construed and held to mean the first working-face formed in the tunnel, and to signify the point at which the tunnel actually enters cover; it being from this point that the three thousand feet are to be counted, upon which prospecting is prohibited as aforesaid.

23. To avail themselves of the benefits of this provision of law, the proprietors of a mining tunnel will be required, at the time they enter cover as aforesaid, to give proper notice of their tunnel location by erecting a substantial post, board, or monument at the face or point of commencement thereof, upon which should be posted a good and sufficient notice, giving the names of the parties or company claiming the tunnel-right; the actual or proposed course or direction of the tunnel; the height and width thereof, and the course and distance from such face or point of commencement to some permanent well-known objects in the vicinity by which to fix and determine the *locus* in manner heretofore set forth applicable to locations of veins or lodes, and at the time of posting such notice they shall, in order that miners or prospectors may be enabled to determine whether or not they are within the lines of the tunnel, establish the boundary lines thereof, by stakes or monuments placed along such lines at proper intervals, to the terminus of the three thousand feet from the face or point of commencement of the tunnel, and the lines so marked will

define and govern as to the specific boundaries within which prospecting for lodes not previously known to exist is prohibited while work on the tunnel is being prosecuted with reasonable diligence.

24. At the time of posting notice and marking out the lines of the tunnel as aforesaid, a full and correct copy of such notice of location defining the tunnel claim must be filed for record with the mining recorder of the district, to which notice must be attached the sworn statement or declaration of the owners, claimants, or projectors of such tunnel, setting forth the facts in the case; stating the amount expended by themselves and their predecessors in interest in prosecuting work thereon; the extent of the work performed, and that it is *bona fide* their intention to prosecute work on the tunnel so located and described with reasonable diligence for the development of a vein or lode, or for the discovery of mines, or both, as the case may be. This notice of location must be duly recorded, and, with the said sworn statement attached, kept on the recorder's files for future reference.

25. By a compliance with the foregoing much needless difficulty will be avoided, and the way for the adjustment of legal rights acquired in virtue of said section 2323 will be made much more easy and certain.

26. This office will take particular care that no improper advantage is taken of this provision of law by parties making or professing to make tunnel locations, ostensibly for the purposes named in the statute, but really for the purpose of monopolizing the lands lying in front of their tunnels to the detriment of the mining interests and to the exclusion of *bona fide* prospectors or miners, but will hold such tunnel claimants to a strict compliance with the terms of the statutes; and a *reasonable diligence* on their part in prosecuting the work is one of the essential conditions of their implied contract. Negligence or want of due diligence will be construed as working a forfeiture of their right to all undiscovered veins on the line of such tunnel.

MANNER OF PROCEEDING TO OBTAIN GOVERNMENT TITLE TO VEIN OR LODE CLAIMS.

27. By section 2325 authority is given for granting titles for mines by patent from the Government to any person, association, or corporation having the necessary qualifications as to citizenship and holding the right of possession to a claim in compliance with law.

28. The claimant is required in the first place to have a correct survey of his claim made under authority of the surveyor-general of the State or Territory in which the claim lies; such survey to show with accuracy the exterior surface boundaries of the claim, which boundaries are required to be distinctly marked by monuments on the ground. Four plats and one copy of the original field notes, in each case, will be prepared by the surveyor-general; one plat and

the original field notes to be retained in the office of the surveyor-general, one copy of the plat to be given the claimant for posting upon the claim, one plat and a copy of the field notes to be given the claimant for filing with the proper register, to be finally transmitted by that officer, with other papers in the case, to this office, and one plat to be sent by the surveyor-general to the register of the proper land district to be retained on his files for future reference. As there is no resident surveyor-general for the State of Arkansas, applications for the survey of mineral claims in said State should be made to the Commissioner of this office, who, under the law, is *ex officio* the U. S. surveyor-general.

29. The claimant is then required to post a copy of the plat of such survey in a conspicuous place upon the claim, together with notice of his intention to apply for a patent therefor, which notice will give the date of posting, the name of the claimant, the name of the claim, mine, or lode; the mining district and county; whether the location is of record, and, if so, where the record may be found; the number of feet claimed along the vein and the presumed direction thereof; the number of feet claimed on the lode in each direction from the point of discovery, or other well-defined place on the claim; the name or names of adjoining claimants on the same or other lodes; or, if none adjoin, the names of the nearest claims, &c.

30. After posting the said plat and notice upon the premises, the claimant will file with the proper register and receiver a copy of such plat and the field notes of survey of the claim, accompanied by the affidavit of at least two credible witnesses, that such plat and notice are posted conspicuously upon the claim, giving the date and place of such posting; a copy of the *notice* so posted to be attached to, and form a part of, said affidavit.

31. Accompanying the field notes so filed must be the sworn statement of the claimant that he has the possessory right to the premises therein described, in virtue of a compliance by himself (and by his grantors, if he claims by purchase) with the mining rules, regulations, and customs of the mining-district, State, or Territory in which the claim lies, and with the mining laws of Congress; such sworn statement to narrate briefly, but as clearly as possible, the facts constituting such compliance, the origin of his possession, and the basis of his claim to a patent.

32. This affidavit should be supported by appropriate evidence from the mining recorder's office as to his possessory right, as follows, viz: Where he claims to be the locator, or a locator in company with others who have since conveyed their interest in the location to him, a full, true, and correct copy of such location should be furnished, as the same appears upon the mining records; such copy to be attested by the seal of the recorder, or if he has no seal, then he should make oath to the same being correct, as shown by his records. Where

the applicant claims only as a purchaser for valuable consideration, a copy of the location record must be filed under seal or upon oath as aforesaid, with an abstract of title from the proper recorder, under seal or oath as aforesaid, brought down as near as practicable to date of filing the application, tracing the right of possession by a continuous chain of conveyances from the original locators to the applicant, also certifying that no conveyances affecting the title to the claim in question appear of record in his office other than those set forth in the accompanying abstract.

33. In the event of the mining records in any case having been destroyed by fire or otherwise lost, affidavit of the fact should be made, and secondary evidence of possessory title will be received, which may consist of the affidavit of the claimant, supported by those of any other parties cognizant of the facts relative to his location, occupancy, possession, improvements, &c.; and in such case of lost records, any deeds, certificates of location or purchase, or other evidence which may be in the claimant's possession and tend to establish his claim, should be filed.

34. Upon the receipt of these papers the register will, at the expense of the claimant (who must furnish the agreement of the publisher to hold applicant for patent alone responsible for charges of publication), publish a notice of such application for the period of sixty days in a newspaper published nearest to the claim, and will post a copy of such notice in his office for the same period. When the notice is published in a *weekly* newspaper ten consecutive insertions are necessary; when in a *daily* newspaper the notice must appear in each issue for sixty-one consecutive issues, the first day of issue being excluded in estimating the period of sixty days.

35. The notices so published and posted must be as full and complete as possible, and embrace all the *data* given in the notice posted upon the claim.

36. Too much care can not be exercised in the preparation of these notices, inasmuch as upon their accuracy and completeness will depend, in a great measure, the regularity and validity of the whole proceeding.

37. In the publication of final-proof notices the register has *no discretion* under the law to designate any other than the newspaper "nearest the land" for such purpose when such paper is a newspaper of general circulation. But he will in all cases designate the newspaper of general circulation that is published nearest the land, geographically measured. When two or more papers are published in the same town, nearest the land, he may select the one which, in his honest and impartial judgment as a public officer, will best subserve the purpose of the law and the general interests of the public.

38. Newspaper charges must not exceed the rates established by this office for the publication of legal notices.

39. The claimant, either at the time of filing these papers with the register or at any time during the sixty days' publication, is required to file a certificate of the surveyor-general that not less than five hundred dollars' worth of labor has been expended or improvements made upon the claim by the applicant or his grantors; that the plat filed by the claimant is correct; that the field-notes of the survey, as filed, furnish such an accurate description of the claim as will, if incorporated into a patent, serve to fully identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the *locus* thereof.

40. It will be the more convenient way to have this certificate indorsed by the surveyor-general, both upon the plat and field-notes of survey filed by the claimant as aforesaid.

41. After the sixty days' period of newspaper publication has expired the claimant will furnish from the office of publication a sworn statement that the notice was published for the statutory period, giving the first and last day of such publication, and his own affidavit showing that the plat and notice aforesaid remained conspicuously posted upon the claim sought to be patented during said sixty days' publication, giving the dates.

42. Upon the filing of this affidavit the register will, if no adverse claim was filed in his office during the period of publication, permit the claimant to pay for the land according to the area given in the plat and field notes of survey aforesaid, at the rate of five dollars for each acre and five dollars for each fractional part of an acre, the receiver issuing the usual duplicate receipt therefor. The claimant will also make a sworn statement of all charges and fees paid by him for publication and surveys, together with all fees and money paid the register and receiver of the land office; after which the whole matter will be forwarded to the Commissioner of the General Land Office and a patent issued thereon if found regular.

43. In sending up the papers in the case the register must not omit certifying to the fact that the notice was posted in his office for the full period of sixty days, such certificate to state distinctly when such posting was done and how long continued.

44. The consecutive series of numbers of mineral entries must be continued, whether the same are of lode or placer claims or mill sites.

45. The surveyors-general should designate all surveyed mineral claims by a progressive series of numbers, beginning with survey No. 37, irrespective as to whether they are situated on surveyed or unsurveyed lands, the claim to be so designated at date of issuing the order therefor, in addition to the local designation of the claim; it being required in all cases that the plat and field-notes of the survey of a claim must, in addition to the reference to permanent objects in

the neighborhood, describe the locus of the claim, with reference to the lines of public surveys, by a line connecting a corner of the claim with the nearest public corner of the United States surveys, unless such claim be on unsurveyed lands at a distance of more than two miles from such public corner, in which latter case it should be connected with a United States mineral monument. Such connecting line must not be more than *two miles* in length and should be measured on the ground direct between the points, or calculated from actually surveyed traverse lines if the nature of the country should not permit direct measurement. If a regularly established survey corner is within two miles of a claim situated on unsurveyed lands, the connection should be made with such corner in preference to a connection with a United States mineral monument. The connecting line must be surveyed by the deputy mineral surveyor at the time of his making the particular survey, and be made a part thereof.

46. Upon the approval of the survey of a mining claim made upon surveyed lands, the surveyor-general will prepare and transmit to the local land office and to this office a diagram tracing showing the portions of legal 40-acre subdivisions made fractional by reason of the mineral survey, designating each of such portions by the proper lot number, beginning with No. 1 in each section and giving the area of each lot.

47. The survey and plat of mineral claims, required by section 2325, Revised Statutes of the United States, to be filed in the proper land office, with application for patent, must be made subsequent to the recording of the location of the mine; and when the original location is made by survey of a United States deputy surveyor such location survey can not be substituted for that required by the statute, as above indicated.

48. The surveyor-general should derive his information upon which to base his certificate as to the value of labor expended or improvements made from his deputy who makes the actual survey and examination upon the premises, and such deputy should specify with particularity and full detail the character and extent of such improvements.

49. The following particulars should be observed in the survey of every mining claim:

(1) The exterior boundaries of the claim should be represented on the plat of survey and in the field notes.

(2) The intersection of the lines of the survey with the lines of conflicting prior surveys should be noted in the field-notes and represented upon the plat.

(3) Conflicts with unsurveyed claims, where the applicant for survey does not claim the area in conflict, should be shown by actual survey.

(4) The total area of the claim embraced by the exterior boundaries should

be stated, and also the area in conflict with each intersecting survey, substantially as follows:

	Acres.
Total area of claim	10. 50
Area in conflict with survey No. 302	1. 56
Area in conflict with survey No. 948	2. 33
Area in conflict with Mountain Maid lode mining claim, unsurveyed	1. 48

It does not follow that because mining surveys are required to exhibit all conflicts with prior surveys the areas of conflict are to be excluded. The field-notes and plat are made a part of the application for patent, and care should be taken that the description does not inadvertently exclude portions intended to be retained. It is better that the application for patent should state the portions to be excluded in express terms. A survey executed as in the example given will enable the applicant for patent to exclude such conflicts as may seem desirable. For instance, the conflict with survey No. 302 and with the Mountain Maid lode claim might be excluded and that with survey No. 948 included.

50. The rights granted to locators under section 2322, Revised Statutes, are restricted to such locations on veins, lodes, or ledges as may be "situated on the *public domain.*" In applications for lode claims where the survey conflicts with a prior valid lode claim or entry and the ground in conflict is excluded, the applicant not only has no right to the excluded ground, but he has no right to that portion of any vein or lode the top or apex of which lies within such excluded ground, unless his location was prior to May 10, 1872. His right to the lode claimed terminates where the lode, in its onward course or strike, intersects the exterior boundary of such excluded ground and passes within it.

51. The end line of his survey should not, therefore, be established beyond such intersection, unless it should be necessary so to do for the purpose of including ground held and claimed under a location which was made upon public land and valid at the time it was made. To include such ground (which may possibly embrace other lodes) the end line of the survey may be established within the conflicting survey, but the line must be so run as not to extend any farther into the conflicting survey than may be necessary to make such end line parallel to the other end line and at the same time embrace the ground so held and claimed. The useless practice in such cases of extending *both* the side lines of a survey into the conflicting survey and establishing an end line wholly within it, beyond a point necessary under the rule just stated, will be discontinued.

PLACER CLAIMS.

52. The proceedings to obtain patents for claims usually called placers, including all forms of deposit, excepting veins of quartz or other rock in place, are similar to the proceedings prescribed for obtaining patents for vein or lode

claims; but where said placer claim shall be upon surveyed lands, and conforms to legal subdivisions, no further survey or plat will be required, and all placer mining claims located after May 10, 1872, shall conform as nearly as practicable with the United States system of public-land surveys and the rectangular subdivisions of such surveys, and no such location shall include more than twenty acres for each individual claimant; but where placer claims can not be conformed to legal subdivisions, survey and plat shall be made as on unsurveyed lands. But where such claims are located previous to the public surveys, and do not conform to legal subdivisions, survey, plat, and entry thereof may be made according to the boundaries thereof, provided the location is in all respects legal.

53. The proceedings for obtaining patents for veins or lodes having already been fully given, it will not be necessary to repeat them here, it being thought that careful attention thereto by applicants and the local officers will enable them to act understandingly in the matter and make such slight modifications in the notice, or otherwise, as may be necessary in view of the different nature of the two classes of claims, placer claims being fixed, however, at two dollars and fifty cents per acre, or fractional part of an acre.

54. By section 2330, authority is given for the subdivision of forty-acre legal subdivisions into *ten-acre* lots, which is intended for the greater convenience of miners in segregating their claims both from one another and from intervening agricultural lands.

55. It is held, therefore, that under a proper construction of the law these ten-acre lots in mining districts should be considered and dealt with, to all intents and purposes, as legal subdivisions, and that an applicant having a legal claim which conforms to one or more of these ten-acre lots, either adjoining or cornering, may make entry thereof, after the usual proceedings, without further survey or plat.

56. In cases of this kind, however, the notice given of the application must be very specific and accurate in description, and as the forty-acre tracts may be subdivided into ten-acre lots, either in the form of squares of ten by ten chains, or if parallelograms five by twenty chains, so long as the lines are parallel and at right angles with the lines of the public surveys, it will be necessary that the notice and application state specifically what ten-acre lots are sought to be patented, in addition to the other *data* required in the notice.

57. Where the ten-acre subdivision is in the form of a square it may be described, for instance, as the "SE. ¼ of the SW. ¼ of NW. ¼," or, if in the form of a parallelogram as aforesaid, it may be described as the "W. ½ of the W. ½ of the SW. ¼ of the NW. ¼ (or the N. ½ of the S. ½ of the NE. ¼ of the SE. ¼) of section ———, township ——— range ———," as the case may

be; but, in addition to this description of the land, the notice must give all the other *data* that is required in a mineral application, by which parties may be put on inquiry as to the premises sought to be patented. The proofs submitted with applications for claims of this kind must show clearly the character and the extent of the improvements upon the premises.

Inasmuch as the surveyor-general has no duty to perform in connection with the entry of a placer claim of legal subdivisions, the proof of improvements must show their value to be not less than *five hundred dollars* and that they were made by the applicant for patent or his grantors. The annual expenditure to the amount of $100, required by section 2324, Revised Statutes, must be made upon placer claims as well as lode claims.

58. Applicants for patent to a placer claim, who are also in possession of a known vein or lode included therein, must state in their application that the placer includes such vein or lode. The published and posted notices must also include such statement. If veins or lodes lying within a placer location are owned by other parties, the fact should be distinctly stated in the application for patent, and in all the notices. But in all cases whether the lode is claimed or excluded, it must be surveyed and marked upon the plat; the field notes and plat giving the area of the lode claim or claims and the area of the placer separately. It should be remembered that an application which omits to include an application for a known vein or lode therein, must be construed as a conclusive declaration that the applicant has no right of possession to the vein or lode. Where there is no known lode or vein, the fact must appear by the affidavit of two or more witnesses.

59. By section 2330, it is declared that no location of a placer claim, made after July 9, 1870, shall exceed one hundred and sixty acres for any one person or association of persons, which location shall conform to the United States surveys.

60. Section 2331 provides that all placer-mining claims located after May 10, 1872, shall conform as nearly as practicable with the United States systems of public surveys and the subdivisions of such surveys, and no such locations shall include more than twenty acres for each individual claimant.

61. The foregoing provisions of law are construed to mean that after the 9th day of July, 1870, no location of a placer claim can be made to exceed one hundred and sixty acres, whatever may be the number of locators associated together, or whatever the local regulations of the district may allow; and that from and after May 10, 1872, no location made by an individual can exceed twenty acres, and no location made by an association of individuals can exceed one hundred and sixty acres, which location of one hundred and sixty acres can

not be made by a less number than eight *bona fide* locators; and no local laws or mining regulations can restrict a placer location to less than twenty acres, although the locator is not compelled to take so much.

62. The regulations hereinbefore given as to the manner of marking locations on the ground, and placing the same on record, must be observed in the case of placer locations so far as the same are applicable, the law requiring, however, that where placer claims are upon *surveyed* public lands the locations must hereafter be made to conform to legal subdivisions thereof as near as practicable.

63. The first care in recognizing an application for patent upon a placer claim must be exercised in determining the exact classification of the lands. To this end the clearest evidence of which the case is capable should be presented.

(1) If the claim be all placer ground, that fact must be stated in the application and corroborated by accompanying proofs; if of mixed placers and lodes, it should be so set out, with a description of all known lodes situated within the boundaries of the claim. A specific declaration, such as is required by section 2333, Revised Statutes, must be furnished as to each lode intended to be claimed. All other known lodes are, by the silence of the applicant, excluded by law from all claim by him, of whatsoever nature, possessory or otherwise.

(2) Section 2395, Revised Statutes (subdivision 7), requires the surveyor to "note in his field books the true situation of all mines, salt licks, salt springs, and mill seats which come to his knowledge, also "all water-courses over which the lines he runs may pass." It further requires him to "note the quality of the lands." These descriptive notes are required by subdivion 8 to be incorporated in the plat by the surveyor-general.

(3) If these duties have been performed, the public surveys will furnish a reasonable guide to the district officers and to claimants in prosecuting their applications. But experience has shown that great neglect has resulted from inattention to the law in this respect, and the regular plats are of very little value in the matter. It will, therefore, be required in the future that deputy surveyors shall, at the expense of the parties, make full examination of all placer claims surveyed by them, and duly note the facts as specified in the law, stating the quality and composition of the soil, the kind and amount of timber and other vegetation, the locus and size of streams, and such other matters as may appear upon the surface of the claim. This examination should include the character and extent of all surface and underground workings, whether placer or lode, for mining purposes.

(4) In addition to these data, which the law requires to be shown in all cases, the deputy should report with reference to the proximity of centers of trade or residence; also of well-known systems of lode deposit or of individual lodes.

He should also report as to the use or adaptability of the claim for placer mining; whether water has been brought upon it in sufficient quantity to mine the same, or whether it can be procured for that purpose; and, finally, what works or expenditures have been made by the claimant or his grantors for the development of the claim, and their situation and location with respect to the same as applied for.

(5) This examination should be reported by the deputy under oath to the surveyor-general, and duly corroborated; and a copy of the same should be furnished with the application for patent to the claim, constituting a part thereof, and included in the oath of the applicant.

(6) Applications awaiting entry, whether published or not, must be made to conform to these regulations, with respect to examination as to the character of the land. Entries already made will be suspended for such additional proofs as may be deemed necessary in each case.

MILL-SITES.

64. Section 2337 provides that "where nonmineral land not contiguous to the vein or lode is used or occupied by the proprietor of such vein or lode for mining or milling purposes, such nonadjacent surface ground may be embraced and included in an application for a patent for such vein or lode, and the same may be patented therewith, subject to the same preliminary requirements as to survey and notice as are applicable to veins or lodes; but no location hereafter made of such nonadjacent land shall exceed five acres, and payment for the same must be made at the same rate as fixed by this chapter for the superficies of the lode. The owner of a quartz-mill or reduction-works, not owning a mine in connection therewith, may also receive a patent for his mill-site, as provided in this section."

65. To avail themselves of this provision of law, parties holding the possessory right to a vein or lode, and to a piece of nonmineral land not contiguous thereto, for mining or milling purposes, not exceeding the quantity allowed for such purpose by section 2337, United States Revised Statutes, or prior laws, under which the land was appropriated, the proprietors of such vein or lode may file in the proper land-office their application for a patent, under oath, in manner already set forth herein, which application, together with the plat and field-notes, may include, embrace, and describe, in addition to the vein or lode, such noncontiguous mill-site, and after due proceedings as to notice, etc., a patent will be issued conveying the same as one claim.

66. In making the survey in a case of this kind, the lode claim should be described in the plat and field-notes as "Sur. No. 37, A," and the mill-site as

"Sur. No. 37, B," or whatever may be its appropriate numerical designation; the course and distance from a corner of the mill-site to a corner of the lode claim to be invariably given in such plat and field-notes, and a copy of the plat and notice of application for patent must be conspicuously posted upon the mill-site as well as upon the vein or lode for the statutory period of sixty days. In making the entry no separate receipt or certificate need be issued for the mill-site, but the whole area of both lode and mill-site will be embraced in one entry, the price being five dollars for each acre and fractional part of an acre embraced by such lode and mill-site claim.

67. In case the owner of a quartz mill or reduction-works is not the owner or claimant of a vein or lode, the law permits him to make application therefor in the same manner prescribed herein for mining claims, and after due notice and proceedings, in the absence of a valid adverse filing, to enter and receive a patent for his mill-site at said price per acre.

68. In every case there must be satisfactory proof that the land claimed as a mill-site is not mineral in character, which proof may, where the matter is unquestioned, consist of the sworn statement of two or more persons capable from acquaintance with the land to testify understandingly.

POSSESSORY RIGHT.

69. With regard to the proofs necessary to establish the possessory rights to a mining claim, section 2332 provides that "where such person or association, they and their grantors, have held and worked their claims for a period equal to the time prescribed by the statute of limitations for mining claims of the State or Territory where the same may be situated, evidence of such possession and working of the claims for such period shall be sufficient to establish a right to a patent thereto under this chapter, in the absence of any adverse claim."

70. This provision of law will greatly lessen the burden of proof, more especially in the case of old claims located many years since, the records of which, in many cases, have been destroyed by fire, or lost in other ways during the lapse of time, but concerning the possessory right to which all controversy or litigation has long been settled.

71. When an applicant desires to make his proof of possessory right in accordance with this provision of law, he will not be required to produce evidence of location, copies of conveyances, or abstracts of title, as in other cases, but will be required to furnish a duly certified copy of the statute of limitation of mining claims for the State or Territory, together with his sworn statement giving a clear and succinct narration of the facts as to the origin of his title, and likewise as to the continuation of his possession of the mining ground covered by his application; the area thereof; the nature and extent of the mining that has been

done thereon; whether there has been any opposition to his possession, or litigation with regard to his claim, and, if so, when the same ceased; whether such cessation was caused by compromise or by judicial decree, and any additional facts within the claimant's knowledge having a direct bearing upon his possession and bona fides which he may desire to submit in support of his claim.

72. There should likewise be filed a certificate, under seal of the court having jurisdiction of mining cases within the judicial district embracing the claim, that no suit or action of any character whatever involving the right of possession to any portion of the claim applied for is pending, and that there has been no litigation before said court affecting the title to said claim or any part thereof for a period equal to the time fixed by the statute of limitations for mining-claims in the State or Territory as aforesaid, other than that which has been finally decided in favor of the claimant.

73. The claimant should support his narrative of facts relative to his possession, occupancy, and improvements by corroborative testimony of any disinterested person or persons of credibility who may be cognizant of the facts in the case and are capable of testifying understandingly in the premises.

74. As a condition for the making of application for patent according to section 2325, there must be a preliminary showing of work or expenditure upon each location, either by showing the full amount sufficient to the maintenance of possession under section 2324 for the pending year; or, if there has been failure, it should be shown that work has been resumed so as to prevent relocation by adverse parties after abandonment.

The "pending year" means the calendar year in which application is made, and has no reference to a showing of work at date of the final entry.

75. This preliminary showing may, where the matter is unquestioned, consist of the affidavit of two or more witnesses familiar with the facts.

PROOF OF CITIZENSHIP OF MINING CLAIMANTS.

76. The proof necessary to establish the citizenship of applicants for mining patents must be made in the following manner: In case of an incorporated company, a certified copy of their charter or certificate of incorporation must be filed. In case of an association of persons unincorporated, the affidavit of their duly authorized agent, made upon his own knowledge or upon information and belief, setting forth the residence of each person forming such association, must be submitted. This affidavit must be accompanied by a power of attorney from the parties forming such association, authorizing the person who makes the affidavit of citizenship to act for them in the matter of their application for patent.

77. In case of an individual or an association of individuals who do not

appear by their duly authorized agent, you will require the affidavit of each applicant, showing whether he is a native or naturalized citizen, when and where born, and his residence.

78. In case an applicant has declared his intention to become a citizen or has been naturalized, his affidavit must show the date, place, and the court before which he declared his intention, or from which his certificate of citizenship issued, and present residence.

79. The affidavit of the claimant as to his citizenship may be taken before the register or receiver, or any other officer authorized to administer oaths within the land district; or, if the claimant is residing beyond the limits of the district, the affidavit may be taken before the clerk of any court of record or before any notary public of any State or Territory.

80. If citizenship is established by the testimony of disinterested persons, such testimony may be taken at any place before any person authorized to administer oaths, and whose official character is duly verified.

ADVERSE CLAIMS.

81. Section 2326, and the act of April 26, 1882, provide for adverse claims, fix the time within which they shall be filed to have legal effect, and prescribe the manner of their adjustment, etc.

82. An adverse mining claim must be filed with the register and receiver of the Land Office where the application for patent was filed, or with the register and receiver of the district in which the land is situated at the time of filing the adverse claim. It must be on the oath of the adverse claimant, or it may be verified by the oath of any duly authorized agent or attorney-in-fact of the adverse claimant, cognizant of the facts stated.

83. Where an agent or attorney-in-fact verifies the adverse claim, he must distinctly swear that he is such agent or attorney, and accompany his affidavit by proof thereof.

84. The agent or attorney-in-fact must make the affidavit in verification of the adverse claim within the land district where the claim is situated.

85. The adverse notice must fully set forth the nature and extent of the interference or conflict; whether the adverse party claims as a purchaser for valuable consideration or as a locator; if the former, a certified copy of the original location, the original conveyance, a duly certified copy thereof, or an abstract of title from the office of the proper recorder should be furnished, or if the transaction was a merely verbal one he will narrate the circumstances attending the purchase, the date thereof, and the amount paid, which facts should be supported by the affidavit of one or more witnesses, if any were

present at the time, and if he claims as a locator he must file a duly certified copy of the location from the office of the proper recorder.

86. In order that the "*boundaries*" and "*extent*" of the claim may be shown, it will be incumbent upon the adverse claimant to file a plat showing his entire claim, its relative situation or position with the one against which he claims, and the extent of the conflict. This plat must be made from an actual survey by a United States deputy surveyor, who will officially certify thereon to its correctness; and in addition there must be attached to such plat of survey a certificate or sworn statement by the surveyor as to the approximate value of the labor performed or improvements made upon the claim by the adverse party or his predecessors in interest, and the plat must indicate the position of any shafts, tunnels, or other improvements, if any such exist, upon the claim of the party opposing the application, and by which party said improvements were made: *Provided, however,* That, if the application for patent describes the claim by legal subdivisions, the adverse claimant, if also claiming by legal subdivisions, may describe his adverse claim in the same manner without further survey or plat.

87. Upon the foregoing being filed within the sixty days as aforesaid, the register, or in his absence the receiver, will give notice in writing to *both parties* to the contest that such adverse claim has been filed, informing them that the party who filed the adverse claim will be required within thirty days from the date of such filing to commence proceedings in a court of competent jurisdiction to determine the question of right of possession, and to prosecute the same with reasonable diligence to final judgment, and that, should such adverse claimant fail to do so, his adverse claim will be considered waived, and the application for patent be allowed to proceed upon its merits.

88. When an adverse claim is filed as aforesaid, the register or receiver will indorse upon the same the precise date of filing, and preserve a record of the date of notifications issued thereon; and thereafter all procedings on the application for patent will be suspended, with the exception of the completion of the publication and posting of notices and plat, and the filing of the necessary proof thereof, until the controversy shall have been adjudicated in court, or the adverse claim waived or withdrawn.

89. Where an adverse claim has been filed and suit thereon commenced within the statutory period, and final judgment determining the right of possession rendered in favor of the applicant, it will not be sufficient for him to file with the register a certificate of the clerk of the court, setting forth the facts as to such judgment, but he must, before he is allowed to make entry, file a certified copy of the judgment, together with the other evidence required by section 2326, Revised Statutes.

90. Where such suit has been dismissed, a certificate of the clerk of the court to that effect, or a certified copy of the order of dismissal, will be sufficient.

91. In no case will a relinquishment of the ground in controversy, or other proof, filed with the register or receiver, be accepted in lieu of the evidence required.

92. Where an adverse claim has been filed, but no suit commenced against the applicant for patent within the statutory period, a certificate to that effect by the clerk of the State court having jurisdiction in the case, and also by the clerk of the circuit court of the United States for the district in which the claim is situated, will be required.

93. A party who is not an applicant for patent under section 2325, Revised Statutes, or the assignee of such applicant, is not entitled to make entry under said section, and in no case will the name of such party be inserted in the certificate of entry. This regulation has no reference to proceedings under section 2326.

94. Any party applying to make entry as *trustee* must disclose fully the nature of the trust and the name of the *cestui que trust;* and such trustee, as well as the beneficiaries, must furnish satisfactory proof of citizenship; and the names of beneficiaries, as well as that of the trustee, must be inserted in the final certificate of entry.

95. No entry will be allowed until the register has satisfied himself, by a careful examination, that proper proofs have been filed upon all the points indicated in official regulations in force, and that they show a sufficient *bona fide* compliance with the laws and such regulations.

96. The administration of the mining laws as prescribed by these regulations will be, so far as applicable, adopted for, and extended to Alaska.

(1) The *ex-officio* register, receiver, and surveyor-general, while acting as such, and their clerks and deputy surveyors, will be deemed subject to the laws and regulations governing the official conduct and responsibilities of similar officers and persons under general statutes of the United States.

(2) The Commissioner of the General Land Office will exercise the same general supervision over the execution of the laws as are or may be exercised by him in other mineral districts.

APPOINTMENT OF DEPUTY SURVEYORS OF MINING CLAIMS—CHARGES FOR SURVEYS AND PUBLICATIONS—FEES OF REGISTERS AND RECEIVERS, ETC.

97. Section 2334 provides for the appointment of surveyors of mineral claims, authorizes the Commissioners of the General Land Office to establish the rates to be charged for surveys and for newspaper publications.

Under this autherity of law the following rates have been established as the maximum charges for newspaper publications in mining cases:

(1) Where a daily newspaper is designated, the charge shall not exceed seven dollars for each ten lines of space occupied, and where a weekly newspaper is designated as the medium of publication five dollars for the same space will be allowed. Such charge shall be accepted as full payment for publication in each issue of the newspaper for the entire period required by law.

It is expected that these notices shall not be so abbreviated as to curtail the description essential to a perfect notice, and the said rates established upon the understanding that they are to be in the usual body-type used for advertisements.

(2) For the publication of citations in contests or hearings involving the character of lands, the charges shall not exceed eight dollars for five publications in weekly newspapers, or ten dollars for publications in daily newspapers for thirty days.

98. The surveyors-general of the several districts will, in pursuance of said law, appoint in each land district as many *competent* deputies for the survey of mining claims as may seek such appointment; it being distinctly understood that all expenses of these notices and surveys are to be borne by the mining claimants and not by the United States; the system of making *deposits* for mineral surveys, as required by previous instructions, being hereby revoked as regards *field work;* the claimant having the option of employing *any* deputy surveyor within such district to do his work in the field.

99. With regard to the *platting* of the claim and other *office work* in the surveyor-general's office, that officer will make an estimate of the cost thereof, which amount the claimant will deposit with any assistant United States treasurer or designated depository in favor of the United States Treasurer, to be passed to the credit of the fund created by "individual depositors for surveys of the public lands," and file with the surveyor-general duplicate certificates of such deposit in the usual manner.

100. The surveyors-general will endeavor to appoint mineral deputy surveyors, so that one or more may be located in each mining district for the greater convenience of miners.

101. The usual oaths will be required of these deputies and their assistants as to the correctness of each survey executed by them.

The duty of the deputy mineral surveyor ceases when he has executed the survey and returned the field notes and preliminary plat thereof with his report to the surveyor-general. He will not be allowed to prepare for the mining claimant the papers in support of an application for patent, or otherwise perform the duties of an attorney before the land office in connection with a mining claim.

The surveyors-general and local land officers are expected to report any infringement of this regulation to this office.

102. The law requires that each applicant shall file with the register and receiver a sworn statement of all charges and fees paid by him for publication of notice and for survey, together with all fees and money paid the register and receiver, which sworn statement is required to be transmitted to this office for the information of the Commissioner.

103. Should it appear that excessive or exorbitant charges have been made by any surveyor or any publisher, prompt action will be taken with the view of correcting the abuse.

104. The fees payable to the register and receiver for filing and acting upon applications for mineral-land patents are five dollars to each officer, to be paid by the applicant for patent at the time of filing, and the like sum of five dollars is payable to each officer by an adverse claimant at the time of filing his adverse claim. (Sec. 2238, R. S., paragraph 9.)

105. All fees or charges under this law may be paid in United States currency.

106. The register and receiver will, at the close of each month, forward to this office an abstract of mining applications filed, and a register of receipts, accompanied with an abstract of mineral lands sold, and an abstract of adverse claims filed.

107. The fees and purchase money received by registers and receivers must be placed to the credit of the United States in the receiver's monthly and quarterly account, charging up in the disbursing account the sums to which the register and receiver may be respectively entitled as fees and commissions, with limitations in regard to the legal maximum.

PROCEEDINGS BEFORE THE REGISTER AND RECEIVER AND SURVEYORS-GENERAL IN CONTESTS AND HEARINGS TO ESTABLISH THE CHARACTER OF LANDS.

108. The "Rules of Practice in cases before the United States district land offices, the General Land Office, and the Department of the Interior," approved August 13, 1885, will, as far as applicable, govern in all cases and proceedings arising in contests, and hearings to determine the mineral or nonmineral character of lands.

109. The only tracts of public land that will be withheld from entry as agricultural land on account of its mineral character, will be such as are returned by the surveyor-general as mineral; and even the presumption which is supported by such return may be overcome by testimony taken at a regular hearing.

110. Hearings to determine the character of land, as practically distinguished, are of two kinds:

(1) Where lands which are sought to be entered and patented as agricultural are alleged by affidavit to be mineral, or when sought as mineral their nonmineral character is alleged.

The proceedings relative to this class are in the nature of a contest between two or more known parties.

(2) When lands are returned as mineral by the surveyor-general.

When such lands are sought to be entered as agricultural, notice must be given by publication for thirty days, with posting in the local office for the same period.

111. At the hearings under either of the aforesaid classes, the claimants and witnesses will be thoroughly examined with regard to the character of the land; whether the same has been thoroughly prospected; whether or not there exists within the tract or tracts claimed any lode or vein of quartz or other rock in place, bearing gold, silver, cinnabar, lead, tin, or copper, or other valuable deposit which has ever been claimed, located, recorded, or worked; whether such work is entirely abandoned, or whether occasionally resumed; if such lode does exist, by whom claimed, under what designation, and in which subdivision of the land it lies; whether any placer mine or mines exist upon the land; if so, what is the character thereof—whether of the shallow-surface description, or of the deep cement, blue lead or gravel deposits; to what exent mining is carried on when water can be obtained, and what the facilities are for obtaining water for mining purposes; upon what particular ten-acre subdivisions mining has been done, and at what time the land was abandoned for mining purposes, if abandoned at all.

112. The testimony should also show the agricultural capacities of the land, what kind of crops are raised thereon, and the value thereof; the number of acres actually cultivated for crops of cereals or vegetables, and within which particular ten-acre subdivision such crops are raised; also which of these subdivisions embrace the improvements, giving in detail the extent and value of the improvements, such as house, barn, vineyard, orchard, fencing, etc., and mining improvements.

113. The testimony should be as full and complete as possible; and in addition to the leading points indicated above, where an attempt is made to prove the mineral character of lands which have been entered under the agricultural laws, it should show at what date, if at all, valuable deposits of mineral were first known to exist on the lands.

114. When the case comes before this office, such decision will be made as the law and the facts may justify; and in cases where a survey is necessary to set apart the mineral from the agricultural land, the necessary instructions will be given to enable the proper party *at his own expense*, to have the work done, at his option, either by United States deputy, county, or other local surveyer;

the survey in such case, where the claims to be segregated are vein or lode claims, must be executed in such manner as will conform to the requirements in section 2320, U. S. Revised Statutes, as to length and width and parallel end lines.

115. Such survey when executed must be properly sworn to by the surveyor, either before a notary public, officer of a court of record, or before the register or receiver, the deponent's character and credibility to be properly certified to by the officer administering the oath.

116. Upon the filing of the plat and field notes of such survey, duly sworn to as aforesaid, you will transmit the same to the surveyor-general for his verification and approval; who, if he finds the work correctly performed, will properly mark out the same upon the original township plat in his office, and furnish authenticated copies of such plat and description both to the proper local land office and to this office, to be affixed to the duplicate and triplicate township plats respectively.

117. With the copy of plat and description furnished the local office and this office, must be a diagram tracing, verified by the surveyor-general, showing the claim or claims segregated, and designating the separate fractional agricultural tracts in each 40-acre legal subdivision by the proper lot number, beginning with No. 1 in each section, and giving the area in each lot, the same as provided in paragraph 45, in the survey of mining claims on surveyed lands.

118. The fact that a certain tract of land is decided upon testimony to be mineral in character is by no means equivalent to an award of the land to a miner. A miner is compelled by law to give sixty days' publication of notice, and posting of diagrams and notices, as a preliminary step; and then, before he can enter the land, he must show that the land yields mineral; that he is entitled to the possessory right thereto in virtue of compliance with local customs or rules of miners, or by virtue of the statute of limitations; that he or his grantors have expended, in actual labor and improvements, an amount of not less than five hundred dollars thereon, and that the claim is one in regard to which there is no controversy or opposing claim. After all these proofs are met, he is entitled to have a survey made at his own cost where a survey is required, after which he can enter and pay for the land embraced by his claim.

119. Blank forms for proofs in mineral cases are not furnished by the General Land Office.

THOMAS H. CARTER,
Commissioner.

Approved December 10th, 1891.

JOHN W. NOBLE,
Secretary.

A.

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
Washington, D. C., October 12, 1892.

Registers and Receivers, United States Land Offices:

GENTLEMEN: Attached is a copy of the act of Congress of August 4, 1892, entitled "An act to authorize the entry of lands chiefly valuable for building-stone under the placer mining laws."

The first section of said act extends the mineral land laws already existing so as to bring land chiefly valuable for building-stone within the provisions of said law to the extent of authorizing a placer entry of such land. The proviso to said first section excludes lands reserved for the benefit of the public schools or donated to any State from entry under the act.

In cases that may arise hereafter in reference to any lands subject to entry under the mining laws, you will be governed by said act in admitting such entries. The proper instructions for your guidance in so doing may be found in official circular of December 10, 1891, entitled "United States Mining Laws and Regulations Thereunder," to which you are referred, and your special attention is called to the law and instructions therein relating to placer claims.

It is not the understanding of this office that the first section of said act of August 4, 1892, withdraws land chiefly valuable for building-stone from entry under any existing law applicable thereto.

The second section of said act of August 4, 1892, makes the timber and stone act of June 3, 1878 (20 Stat., 89), applicable to all the public-land States. You will observe the same in acting upon applications for entries in your respective districts. For instructions you are referred to the general circular of February 6, 1892, pages 35 to 38 inclusive.

In allowing placer entries for stone chiefly valuable for building purposes, under the first section of the act of August 4, 1892, you will make a reference to said act on the entry papers returned.

Very respectfully,

W. M. STONE,
Acting Commissioner.

Approved October 12, 1892:

GEO. CHANDLER,
Acting Secretary.

AN ACT to authorize the entry of lands chiefly valuable for building stone under the placer mining laws.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That any person authorized to enter lands under the mining laws of the United States may enter lands that are chiefly valuable for building stone under the provisions of the law in relation to placer mineral claims: *Provided,* That lands reserved for the benefit of the public schools or donated to any State shall not be subject to entry under this act.

SEC. 2. That an act entitled "An act for the sale of timber lands in the States of California, Oregon, Nevada, and Washington Territory," approved June third, eighteen hundred and seventy-eight, be, and the same is hereby, amended by striking out the words "States of California, Oregon, Nevada, and Washington Territory" where the same occur in the second and third lines of said act, and insert in lieu thereof the words, "public-land States," the purpose of this act being to make said act of June third, eighteen hundred and seventy-eight, applicable to all the public-land States.

SEC. 3. That nothing in this act shall be construed to repeal section twenty-four of the act entitled "An act to repeal timber-culture laws, and for other purposes," approved March third, eighteen hundred and ninety-one.

Approved, August 4, 1892.

A.

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
Washington, D. C., October 24, 1892.

Registers and Receivers, United States Land Offices:

GENTLEMEN: In addition to instructions contained in general circular of February 6, 1892, pages 35 to 38, inclusive, and pages 147 and 148, in relation to the timber and stone act of June 3, 1878, extended by the act of August 4, 1892, referred to in circular A of October 12, 1892, you are advised as follows:

1. That entries made under section *one* of said act are required to be kept and reported in consecutive and numerical order in your mineral land series.

2. That entries made under section *two* of said act are required to be kept and reported in consecutive numerical order in your regular agricultural cash series.

Necessary additional blank forms for entries under said act are as follows:

Form Nos. 4-357; 4-363; 4-370; 4-371; 4-537; 4-658 *c.*

Very respectfully,

W. M. STONE,
Acting Commissioner.

X.

Commerce—Transportation Facilities—Proposed Railroad.

It is difficult to obtain statistics in regard to the trade of Alaska, since the transportation of imports and exports is accomplished less by the regular lines than through special conveyances. The large companies engaged in business in the Territory usually employ their own ships. There were some 87 trading houses reported in Alaska in 1891, located in not less than 60 towns and villages, and scattered from Point Barrow to the southern extremity, and from Loring to Attu. The number of stores for the sale of general merchandise in southeastern Alaska in 1892 was 47. The imports consist of merchandise, machinery, powder, clothing, provisions, tools, furniture, etc. The exports are made up of fish, furs, whalebone, ivory, oils, gold and silver bullion and ores. The total imports in 1892, according to the report of Governor Knapp, of Alaska, amounted to the value of $2,164,238. The exports are classified as follows:

EXPORTS.

Furs, curios, etc., from 13 stations, southeast Alaska	$351,000
1,220,000 codfish (7,500 tons)	375,000
789,294 cases of salmon	3,157,176
9,000 barrels of salted salmon	81,000
186,250 pounds whalebone	1,210,625
1,000 pounds ivory	5,000
12,228 barrels whale oil	103,668
Product of the Killisnoo manufactory, oil and guano	114,000

Gold bullion, Alaska Treadwell Gold Mining Company	$707,017
Gold and silver ore and bullion by other companies	400,000
13,500 seal skins taken under the lease; 52,087 seal skins taken by sealing fleet; 10,000 seal skins taken by natives and others	755,587
Furs shipped by Alaska Commercial Company	348,991
Furs shipped by other parties, western Alaska	90,000
Other products not enumerated	60,000
Total	7,759,064

Balance of exports above imports, $5,594,886.

Among the furs may be mentioned those of the sea otter, the seal, the beaver, the silver and blue fox, the mink, and the marten.

Mr. Petroff (Alaska, Its Population, Industries, and Resources, 1884) says:

In the regions inhabited by the sea-otter hunters and on the Pribilof Islands, a barrel of flour per annum is consumed for each man, woman, and child more than the average in civilized communities. Traders report that the demand for flour and hard bread increases annually, even among the tribes of the interior. The demand for tea, also, is steadily gaining, and the consumption of sugar is universal wherever it can be carried by the traders, but is especially large in those sections of Alaska (especially in the southeast) where the creoles and natives understand the manufacture of alcohol from sugar and molasses. Including the southeastern division, which is supplied chiefly from Portland, Oreg., and British Columbia, the annual shipment of flour may be estimated at not less than 10,000 barrels, or a barrel for every three individuals of its population. If to this are added 5,000 or 6,000 cases of hard bread, 1,200 chests of tea, and 2,500 barrels of sugar, it is seen that the trade with Alaska in these staples alone is assuming considerable proportions. The shipments of tobacco aggregated from 15,000 to 20,000 pounds. Of the value of the dry goods it is impossible to make an estimate, but it is safe to assume that it does not equal that of groceries or provisions.

MAIL AND TRANSPORTATION FACILITIES.

Governor Knapp, in his report for 1892, says: "The mail contract with the Pacific Coast Steamship Company requires stoppage for receipt and delivery of mail by their regular passenger and freight steamers, two each month, at seven ports, viz: Kichkan, in Tongass Narrows, Loring, Wrangel, Douglas, Juneau, Killisnoo,

and Sitka. For this service, they are paid the sum of $18,000 per year. When other trips are made and other places are visited by the steamers of the company, mails are also carried and delivered on those trips and at those other places. By this more uncertain service, several mails have been delivered at Metlakahtla, Mary Island, Chilkat, and Hoonah, and the mail has been carried weekly instead of semi-monthly to the first-named places during the months of June, July, and August. Another mail contract insures monthly mails served from Wrangel to Klawak and Howkan (or Jackson, which is the post-office name). A small steamer or steam launch plies between Wrangel and Howkan. Between Sitka and Unalaska, a distance of about 1,350 miles, a small steamer has made seven regular monthly trips, stopping at six places, from April to October."

In Special Consular Reports, Highways of Commerce, 1895, page 29, it is stated that the fare from San Francisco to Wrangel, by the Pacific Coast Steamship Company, is $50; to Juneau or Sitka, $70. There is also steamship service from St. Michael's, via Unalaska to Seattle and San Francisco.

The report of the Second Assistant Postmaster-General of the United States for 1896 says that a post-office was authorized at Circle City March 19, 1896. The carrier for the first trip started from Juneau June 11 and reached Circle City July 14, carrying 1,474 letters. He returned by way of St. Michael, reaching Seattle August 19. On the second trip, the carrier left Juneau July 8, reaching Circle City August 6. Another trip was to be made in September, and four between November and May, 1897.

PROPOSED RAILROAD.

In 1886, in reply to an inquiry on the part of the United States Senate, the Director of the United States Geological Survey, Mr. J. W. Powell, presented a report on the feasibility of constructing a railroad between the United States, Asiatic Russia,

and Japan. Mr. Powell said that from all available information, the proposed line appeared to present no greater obstacles than those already overcome in transcontinental railroad building. It was suggested that the line start from some point on the Northern Pacific Railroad in Montana, and run, via the head waters of the Peace River, to the head waters of the Yukon; and thence to some point on the shore of Bering Sea, the total distance covered being about 2,765 miles. A branch line of 375 miles from the head waters of the Peace River might run to the mouth of the Stikine River, so as to facilitate communication with Sitka.

XI.

Territorial Government.

In 1884, a district government was created by Congress for Alaska, with a governor and a district court, which sits alternately at Sitka and Wrangel. The laws are those of Oregon. There is a land office at Sitka. Commissioner Hermann, of the United States General Land Office, on July 31, 1897, stated that the mineral-land laws of the United States, the town-site laws (providing for the incorporation of town sites and acquirement of title thereto from the Government to the trustee), and the law providing for trade and manufactures, giving each qualified person 160 acres of land in a square and compact form, are applicable in Alaska. The coal-land regulations and the public-land laws do not extend to Alaska, as the Territory is expressly excluded by the laws themselves from their operation.

The following is a list of United States officers in Alaska, furnished by the Department of the Interior, August 7, 1897:

John G. Brady, governor, Sitka.

Albert D. Elliot, clerk of the court, and ex officio secretary of Alaska, Sitka.

William L. Distin, surveyor-general, Sitka.

John W. Dudley, register of the land office, Sitka.

Ruswell Shelly, receiver of public moneys, Sitka.

Caldwell W. Tuttle, commissioner at Sitka.

Kenneth M. Jackson, commissioner at Wrangel.

Lycurgus R. Woodward, commissioner at Unalaska.

John Y. Ostrander, commissioner at Juneau City.

Philip Gallaher, commissioner at Kadiak.
John E. Crane, commissioner at Circle City.
L. B. Shepard, commissioner at St. Michaels.
John U. Smith, commissioner at Dyea.
Charles H. Isham, commissioner at Unga.

The following is a list of the judicial officers of the United States in Alaska, furnished by the Department of Justice, August 7, 1897:

Charles S. Johnson, district judge, Sitka.
Burton E. Bennett, United States attorney, Sitka.
Alfred J. Daly, assistant United States attorney, Sitka.
James M. Shoup, United States marshal, Sitka.

INDEX.

	Page.
Agricultural conditions	39
resources	38
Aleutian division	16
Aleutian Islands	32
climate	26
Aleut Indians	14
Arctic division	16
Area	7
Athabascan Indians	12
Balsam fir	37
Black bass	74
Boundaries of Alaska	7
Boundary dispute with Great Britain	9
British vessels seized in Bering Sea	56, 67, 69
Canadian boundary treaty	10
Cattle	40
Chilkat Pass	81
Chilkoot Pass	80
Circle City	34
Civil officers of Alaska	129
Claims for British vessels seized	69
Climate of Alaska	25
Codfish	73
Copper	75
Copper River	18
Corporations owning mining claims	87
Cost of transportation	127
Dogs	42
Douglas City, location, etc	31
Eskimos	12
Exports, value of, 1892	125
Fisheries, value of, 1893	74
Forests of Alaska	35
Fort Yukon	22
Furs	126

	Page.
Fur-seal arbitration:	
Arbitrators	58
Award	58
Findings of fact	64
Place of meeting	54
Points considered	55
Regulations	62
Treaty	52
Fur-seal fisheries:	
Controversy	43
Negotiations since 1893	68
Fur-seal islands, leasing of	48
Fur seals; number taken by United States	47
General merchandise stores	125
Geographical situation	7
Geography and topography	15
Gold	15, 75, 76, 77
Halibut	74
Hemlock	37
Herring	73
Horses	41
Hyda Indians	14
Indian tribes	12
Intoxicating liquors	13, 65
Iron	75
Judicial officers of Alaska	130
Juneau, location, etc	30
Kadiak division	15
Kenai peninsula	31
Klondike region:	
Claims located	76
Climate	26
Description of route to	80
Expenses of trip to	79
Gold discovery	76
Routes to	79

	Page.
Kuskokwim division	16
Land district, to create	95
Laws applicable to Alaska	129
Lead	75
Lode claims, status prior to 1872	98
Mail and transportation facilities	126
contracts	127
Maps of Alaska	frontispiece
Mill sites, law relating to	113
Mineral lands and mining:	
Act of 1866	81
Act of 1874	92
Act of 1878	93
Act of 1884	81
Mineral lands open to exploration, etc	98
resources	75
Miners—proof of citizenship	83
Mining claims:	
Adverse claims	85, 94, 95, 116, 117
Affidavits required	88
Appointment of deputy surveyors	118
Blank forms	122
Building-stone claims	123, 124
Charges for survey, etc	119
Extent of	83, 96, 117
Fees of receivers	120
How patented	85
Legal subdivisions	87
Location of	84
Non-resident claims	94
Placer claims	86, 87, 109
Possessory rights	114
Proof of citizenship	115
Priority of possession	89
Proceedings before receivers	120
Regulations	83
Right of possession	83
Survey of	88
Tunnel rights	83, 92, 103
Vein or lode claims	85, 86, 89, 99 100, 104
Mining in winter	78
laws	82
repeal provisions	91
Mission stations	13
Mosquitoes	28
Nulato	23
Pelagic sealing	49
Point Barrow, climate	26
Poplar	36
Population of Alaska	10
Port Clarance	33
Potato crop	38
Pribilof Islands, discovery of	44
Prince of Wales Island	8
Purchase price	9
Railroad proposed	127
Rainfall	26
Reindeer	41
Religion	13
River system	17
Salmon fisheries	20, 69
Act for protection of	70
Canned product, 1883–1890	69
Sawmills	37
Scrub pine	37
Seal life in Bering Sea, commissioners to investigate	56
Silver	75
Sitka:	
Location, etc	30
Spruce	36
Southeastern division	15
Spruce	35
St. Michaels:	
Climate	27
Location	33
St. Paul, location, etc	32
Stikine River	18
Sushitna River	19
Tanana River	23
Teller reindeer station	42
Territorial government	129
Thlinket Indians	14
Timber, varieties of	35
Towns and trading posts	30
Trading houses	125
Treadwell Mining Company	75
Tsimpsean Indians	14
Vegetables	38

	Page.
Wages paid	78
Western limits	8
Whales, result of catch 1874–1891	72
White birch	35
White Pass	79
White River	21
Wrangel, location	30
Yellow cedar	36
Yukon district:	
Climate	26
Description	16, 39
Gold discoveries	76, 77
Gold production, 1890–1896	76
Mining population	76
Prospecting	78
Rainfall	26
Routes to	79, 80
Yukon River	18, 20
Yukutat, location	31

O

THE . . .

COMMERCIAL DIRECTORY

OF THE AMERICAN REPUBLICS

This BUREAU will soon publish a comprehensive and reliable Commercial Directory of the American Republics. The volume will be the most complete and accurate ever issued in any of the countries that will be represented in it, namely, Argentine Republic, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Paraguay, Peru, Salvador, Santo Domingo, United States (including Alaska and Hawaii), Uruguay, Venezuela, and the West Indies. The expense of such a publication is so great that a charge of five dollars will be made for a copy of the Directory, which will comprise two splendid octavo volumes of more than 800 pages each. The Directory will contain upwards of 60,000 names, and include the addresses and lines of business of nearly all the commercial concerns of Latin America. The first volume will be ready for distribution on or about October 1st, the magnitude and increasing interest in the work requiring its publication in two volumes, and the second on or before December 1, 1897. Manufacturers, bankers, shippers, merchants, and educators, lecturers, editors, and other professional men, for whom the work must possess peculiar interest, and all others desiring to subscribe for the Commercial Directory, will be furnished with the proper blanks by addressing the

DIRECTOR OF THE BUREAU OF AMERICAN REPUBLICS,
WASHINGTON, D. C.

This book should be returned to the Library on or before the last date stamped below.

A fine of five cents a day is incurred by retaining it beyond the specified time.

Please return promptly.

NOV 25'60 H